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GLEANINGS IN BEE CULTURE

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GLEANINGS OF BEE CULTURE

A JOURNAL
DEVOTED
TO BEES,
AND HONEY,
AND HOME,
INTERESTS.

ILLUSTRATED
SEMI-MONTHLY

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No 14



FIRST WHITE CLOVER I saw in bloom this year was May 27. First sweet clover June 19, two days later than J. A. Green reports.

A MEATY ARTICLE that of Stachelhausen, page 710, and I wish he'd write less for German papers and more for papers on this side. Easier for me to read the U. S. language.

T. W. MORTON asks, "Isn't it a fact that robbers know that a colony is queenless by the absence of the scent of the queen?" I don't know, but it looks a good bit that way.

CHARLES F. LASHIER winters in a frost-proof building run entirely by ventilators. Does he ventilate warm air into the building, or how does he keep the temperature up to 44 degrees?

LOTS OF TIME been lost by my bees, since clover opened, by cold and wet weather; but in spite of it they've made good progress, some colonies having four supers on, if Hershiser will forgive such presumption.

"DON'T PUT ON your sections until the bees whiten the top edges of the comb," page 720. That may be all right with you, friend Carey, but here it would hasten swarming to an objectionable extent. At least I have always thought so.

M. W. SHEPHERD wants to know "why the majority are bait sections" in Mr. Townsend's article, p. 594. Didn't the printer take liberties with the copy, and didn't Mr. Townsend write "the majority use bait sections"? [The printing is according to copy, doctor, but your suggestion seems good.—ED.]

BEG PARDON, Mr. Editor, but I don't believe bees would build cleats of fences into adjoining comb unless there were less than $\frac{1}{4}$ inch between the two, page 728. [While

bees will make a groove in the comb directly opposite the post in the fence, there will be quite liable to be comb attachments. Moreover, a comb with four upright grooves in it will be a mean thing to uncap for extracting. So, all things considered, the fence ought to be a "one-sided" affair.—ED.]

E. H. HORNE asks how far his two apiaries should be apart, p. 725. Probably three miles or more. His plan of keeping drone-guards on would be all right, only with the large number of swarms that would be sure to be out at a time in an apiary of considerable size, with each colony coming out as he says every day for several days, there would be some unpleasant demoralization, swarms returning to the wrong hives, leaving their old homes badly depleted.

MY COLONY with the Dibbern trap has swarmed, and I supposed I could leave the queen in the trap a few days, but she has gone back into the hive. Quite a number of bees were with her in the trap, and I suppose the bunch favored her going down through the cone escape. [The case is very unusual of a queen going back through the cone. Generally, I think it is better to remove the trap with a queen as soon as the swarm has gone forth.—ED.]

EDITOR YORK and wife are here to spend the glorious Fourth, he to play with me, and both to eat strawberries that never traveled on the cars, and cream that came from a cow. [So you imply there is some cream that never came from a cow. The dairy-men had better get after you the same as you are after the purveyors of the comb-honey canard. But, "all'e samee," I should have liked to have had some of that cream, and some of those strawberries that were fresh from the vines.—ED.]

G. W. MEREDITH has gotten up a hive-tool that deserves consideration from the fact that one end terminates in a hook for lifting a dummy—an important consideration for those who use dummies. [An important requisite of any hive-tool is a hook somewhere about it. The Root Co. is seriously considering the matter of putting out a drop-forged tool for next season. We would have done it long ago, but no two bee-keep-

ers agreed on the shape of the tool. The tool we shall put out will consist of a pry, a scraper, a hammer, and a hook, all in one.—ED.]

A SURE SIGN of laying workers I have always counted it when more than one egg was found in a queen-cell. June 13, in a colony with a last year's queen doing good work, I found a queen-cell with three eggs in it—the only queen-cell in the hive. Never heard of such a thing before. June 17—another case exactly like it, only an additional queen-cell with only one egg in it. Is it getting to be a common thing?

AS A POSTSCRIPT to that helpful editorial about greasy waste for smoker fuel, p. 705, allow me to repeat that any who live near railroad stations will find greasy cotton waste thrown along the road by engineers and firemen. [I had not thought of that; but there are large quantities of this material that can be gathered up on a mile or so of track, especially near depots and switching-points. The more our boys use this greasy waste, or printers' waste, the more they like it. The smoke is much more lasting, and, what is more, it is perfectly clean, throwing no sparks.—ED.]

MY! MY! MY! how the time does fly! Here is Ernest talking about a 14-year-old son, page 704, and it's hard for me to think of Ernest as any thing but a youngster himself, presuming a good deal to undertake to edit a bee journal. And he makes a good one too. [Yes, the young man is now as tall as his father, and he is now beginning to wonder if he couldn't floor him also. Well, I believe I am going to make a bee-keeper of him. He is not afraid of bees, and rather likes to help his pa, especially when I take the little Olds automobile to the yards and give him a chance to run it.—ED.]

THANKS, J. A. Green, for explaining, page 702, that the nearer sections approach a pound in average weight the greater variation in individual weights. It's because thinner sections will be built more uniform. If you had said that before, I wouldn't have thought, as I did think, that you meant that any average weight either more or less than a pound would be more uniform than the exact pound average. But I might have been smart enough to understand you, any way. Now, another thing. You say, page 702, the variation would be increased by making the section higher or wider. Please explain why.

SEEMS TO ME that stick for Coggshall to roll gunny sacks on, p. 704, is something new, isn't it? As he told it to me, he said to roll it up, "then take an ax and chop 'er up." He would hardly chop 'er up with the stick in; and if he pulled the stick out it would leave it rather loose. Or is it better to be quite loose? [If you will turn to Coggshall's article on page 74 for GLEANINGS of last year, you will see that he recommended rolling the burlap up on a half-inch rod. It is rather hard to explain on

paper just how tight the rolls should be. We got very good results by making the roll about half way between a tight and a loosely wound roll.—ED.]

AT LAST we have the whole dread truth. After basswood lumber disappears, it will cost 75 cts. a thousand for four-piece sections, page 701. Pshaw! if that's all, I'm not going to lie awake nights fearing that I'll have to give up the production of section honey. [But, hold on, doctor! When lumber advances, labor will also advance somewhat. It is the experience of the Root Co. that our own labor has increased and is still increasing in cost. Well, suppose we put the price \$1.00 per 1000 extra, you will have to add to that cost your own labor in putting the four-piece sections together.—ED.]

E. S. MILLER gives fine instruction for shaking swarms, page 713. But say, friend Miller, why don't you tell us what the right conditions are when you say bees will not abscond "if the conditions within the hive are all right"? And what makes you think "bees don't like to see daylight through the top of the hive"? For years my colonies had an opening at top at back end of hive, and I never knew any objection except that they didn't finish sections so well at the opening; but I thought that was the cool air, and not the light. I gave it up on account of that objection, but for the past two years have practiced it again, believing the gain more than the loss.

W. H. CRAWFORD wants to know, p. 606, whether he can succeed in having a queen fertilized in an upper story with a hole for the queen to get out, a laying queen at the same time being in the lower story, and an excluder between the two stories. I have succeeded, but more often the virgin in some way disappeared. [Yes, he can succeed generally during the height of a honey-flow, and at other times providing he feeds the colony a little syrup every day to keep it up to a high state of prosperity. But that is too much work and expense. A far better way is to use the baby nuclei. Yesterday, July 11, we took 42 laying queens from somewhere about 200 babies; and we figure we can from that number average 20 a day.—ED.]

IT IS POSSIBLE that a queen should be Oslerized when two years old, but to carry it so far as to requeen every year would have the serious objection that one could not improve his stock by selection, for no queen can make a record unless she is allowed to live a full season after the year she is born. [If we have a fair season is it necessary that we should have another year in which to determine the value of a queen? One of the best queens I knew of was a yearling from Vernon Burt. This queen filled 24 sections, besides drawing out the foundation, in three days of 24 hours each. She was reared last fall, and her hive was stocked entirely with her own blood. Her bees are still jamming in the honey in a way that excels every thing else in the yard.

Don't you think she would not do equally good work next season in comparison with others? Well, the Root Co. have bought the queen for a breeder.—ED.]

NEW YORK reports an unfavorable season, page 706; but had their main harvest, basswood, shown up before July 1? [As will be seen elsewhere, the recent hot weather, together with the frequent warm rains, has given a new lease of life to white, red, and peavine clover. They are all in bloom, and give promise of a fair yield of honey. As the ground is too soft to cut the peavine the bees will have access to it until the sod is firm enough to hold a mower. A week or so ago we concluded the clover yield was about up; but I find that even white clover is very abundant, and the bees are working well on it. If this condition is universal there may yet be a crop from the clover belt. A peculiar season like this throws us all out of calculation.—ED.]

E. P. CHURCHILL's description of a pry to move followers, page 721, I wonder if I'm the only one who can't understand it, especially that "one five with ends." [By reading again the paragraph in question I find it is not clear just how his hive-tool is constructed. Ordinarily I require a correspondent to make his description very clear, or furnish a photo or drawing; but owing to the fact that, during a part of my time, I have had to be out among the bees, I have let some things go by. And that reminds me that I should be glad to have our correspondents furnish us drawings or photos. We are perfectly willing to pay the expense of either. There are but very few things that can be clearly described by words alone; and even then a good drawing saves a heap of time in figuring out how a thing is made or used. Sometimes three or four drawings are submitted to the writer before one is pronounced correct. Where a small model can be made, by all means send one, and from this we can elaborate a good drawing.—ED.]

REFERRING to my question about a case of sections weighing $11\frac{3}{4}$ lbs. selling for more than a case weighing $12\frac{1}{2}$ lbs., the quality being the same in each case, you ask for something "specific," p. 640. Please look at market report for Chicago, in GLEANINGS for Nov. 1, 1903, p. 907, where you will find this: "To obtain $13\frac{1}{2}$ to 14 it has to be perfect, and in sections that will not weigh over 14 to 15 oz. Sections that weigh 16 oz. and over have to be sold at from 1 to 3 cts. per lb. less." Let's figure, taking the average difference of 2 cts. per lb. A case of $11\frac{3}{4}$ lbs. at 14 cts. brings \$1.64 $\frac{1}{2}$; a case of $12\frac{1}{2}$ lbs. at 12 cts. brings \$1.50. Of course, that's not saying there's any thing wrong in the one who makes the quotation, any more there's something wrong in me for producing light-weight sections. The question is, Why should the market be such? It may be said that heavy-weight sections produced without separators are likely to be bulgy and leaky. But so may light-weight sec-

tions produced without separators be bulgy and leaky, and many a case of full-weight sections have I produced with separators. It looks to me that light-weights bring more per pound because the section can be sold with the understanding on the part of the purchaser that he's getting a full pound. [Perhaps we shall have to agree to disagree, for I can't see this as you do. I have traveled from ocean to ocean, and have talked with commission men in nearly all of our large cities. They have been annoyed with bulgy and leaky sections. If a $1\frac{1}{2}$ section $4\frac{1}{2}$ square produced without separators runs a pound or a little over, it will not crate well with another section of the same class. Some bee-keepers are foolish enough to put two fat sections together, with the result that the whole case of honey has to be sold for less money. Mr. Burnett has been troubled just as we have been, again and again, by bee-keepers who think they can economize by using fewer separators. There are many bee-keepers now who are using only one or two separators in a super. Indeed, I have heard it soberly argued in convention. While some may know their business well enough to get along with only two separators, the great majority do not. While a light-weight section may be bulgy, as you speak of, they are not liable to be so fat as to interfere with casing. A $1\frac{1}{2} \times 4\frac{1}{2}$ section is the nearest to standard; when separated, it runs less than a pound. If the average is a pound or over don't you see that there are liable to be some fat sections that will leak? The only way to make a $1\frac{1}{2}$ section average a pound is to go without separators, then some of them will be over full. A case of 12 sections weighing $12\frac{1}{2}$ pounds is made up of sections that won't crate up well. If you were a dealer you would pay more for sections, every one of which would be sound and of uniform filling, than to take a case of heavier sections which would be quite liable to leak. If the standard section were two inches thick then the situation would be very different. I am only sorry, doctor, that you can not be in place of the wholesaler or retailer so that you wouldn't be like the "man up a tree." You say you have produced many a case of full-weight sections with separators. But this is not saying it was an average. Possibly you were referring to the $1\frac{1}{2}$ section which you formerly used. The $1\frac{1}{2}$ on the average, when produced with separators, runs less than a pound; and, if I mistake not, your sections are not an exception to the general rule over the country. Mr. J. A. Green hit the nail on the head when he said the $1\frac{1}{2}$ section was made to fit a hive. If this be true, it was not to reduce weight for the purpose of deceiving. You formerly used $1\frac{1}{2}$ sections. When you adopted new hives you also adopted the $1\frac{1}{2}$ section with wood separators. It is no doubt true that an underweight section is also more popular with the purchaser—not because he is deceived, but because he can get something for 15 or 10 cents as the case may be.—ED.]



Provide water for your bees so that they will not bother your neighbors. It is very annoying to the neighbors to be bothered by *your* bees, especially where they "water" at the stock-troughs and bother stock. A little attention to this matter will save you trouble and friends.

Starvation during last winter and spring is the cause of a short honey crop in many localities this year. Carelessness on the part of the bee-keepers left many strong colonies short of stores. The season opened too wet to enable the bees to gather new stores; and, later, the sudden dry weather cut off the bloom. The bee-keeper who helped his colonies came out ahead in the deal. Another example has been set; but how many of these same bee-keepers will take heed?

At a meeting of the Business Men's Club, of San Antonio, the date was set for the next annual meeting of the National Bee-keepers' Association. The date is Oct. 28 to Nov. 1. This will be during the time of the International Fair, and the Fair Association has designated Oct. 28 as "Bee-keepers' Day" at the fair. Plans are being made to make exhibits of hives, honey, beeswax, and all sorts of things of interest to bee-keepers. In addition to an interesting convention it is proposed to entertain the delegates in San Antonio manner, and take them to visit the great bee county, Uvalde.

Basswood yielded heavily in some parts of East Texas this season, but the flow was accompanied by heavy and continued rains. The nectar, as it came into the hives, was the "thinnest and most watery" the bee-keepers there had ever seen. Horsemint was also in bloom, and yielded heavily at the same time, and it, too, was watery. The weather remained damp and cool, and "the honey acted in the combs and swelled out the cappings until they burst. That which was extracted after it was all sealed over and ripe (?) in the combs could not be kept secured, even in strong iron-hooped barrels."

The Texas Bee-keepers' Association meets in annual session July 25, 26, 27, at the Agricultural and Mechanical College, at College Station, during the time of the meeting of the Texas Farmers' Congress. The meeting promises to be a good one. The number of delegates to the congress is increasing every year. From 250 delegates at

the first session several years ago, it grew to over 1200 last year. Cheap excursion rates over the railroads should bring many bee-keepers together. A good program has been made out. One of the addresses will be entitled "The Duties of each Member of this Association when the National Association meets in San Antonio next October."

For many years there has not been a rainy spell in the summer, such as we are having this month. The rainfall since June 21 up to to-day, the 27th, has been 13½ in., and it is still showering. The rain was badly needed. The severe drouth of several weeks has been broken, and prospects are much better. The season was too wet at first and too dry later, when the drouth set in. In consequence very little honey was made except in a very few favored localities. The rain is too late for the earlier yielders; but cotton is yielding now, and a fall flow may be expected in some localities. On the whole, however, the Texas honey crop will be short.

SLEEPLESSNESS AND HONEY.

Honey for sleeplessness I have found to be very helpful. It acts much as a soothing-syrup does. Many times, when I was still at home and it was impossible for me to go to sleep, I would get up after tossing about for several hours late into the night, and take a spoonful of honey. Many times I would grope my way down stairs in the dark to get it, and the "medicine" was effective. I have made it a practice, wherever I could do so, to finish my supper with some honey, and sweet milk if I can get it, as I am very fond of these. To persons who are troubled with sleeplessness I have recommended a light supper of bread, honey, and milk. When granulated honey can be had it is simply used as is sugar. In my boyhood days I used to think there was nothing nicer than a tumbler of rich sweet milk into which bread was broken, and this sweetened with a "great big" spoonful of well-flavored granulated honey. Such a dish is relished even now, and it "comes in" to "make out" my supper quite often.

FOUL-BROOD WORK IN TEXAS.

Two years ago a foul-brood law was passed by the legislature of Texas, but no appropriation for carrying out the work was made. A copy of this law was given in May 1st GLEANINGS. Through the urgent requests and agitation on the part of the bee-keepers, with the help of others in securing a sufficient appropriation, the legislature at its last session this spring provided for a sum of \$800 per year for two years, to be used for the work of foul brood and other contagious diseases of bees. This fund will not become available until September 1 of this year; but preparations for the work are already being made here in the Department of Entomology, where the work will be un-

der the direction of the State Entomologist. The work on contagious bee diseases will include both scientific, laboratory, and other investigations, to determine needed facts and information regarding the same; as, method of infection, resistance of germs and spores, method of treatment in eradication, fumigation, etc. A well-equipped bacteriological laboratory is being provided for, and it is hoped that many points about which very little is now known may be brought to light.

EVAPORATING UNRIPE HONEY.

Since learning of the trouble that some bee-keepers have in getting thin honey ripened that was gathered during a prolonged wet season, the question of how it might be overcome has arisen. I would suggest that the honey be extracted before it ferments in the combs. Put it in 60-lb. square cans, and heat the honey to remove the surplus water. Many of our Southern bee-keepers have, in connection with their apiaries, a brick oven over which granulated extracted honey is reliquefied. This is done by setting half a dozen or a dozen 60-lb. cans of the honey in an iron-bottom vat partly filled with water. The cans rest on sticks across the metal bottom to prevent scorching. The whole is brought to a boil, and the cans removed as fast as the honey is melted. Such a treatment could be given unripe honey when it *must* be ripened artificially. If care is taken this can be easily done without impairing the other qualities of the honey. Of course, I would not advocate such practice for unripe honey generally. I am a strong believer in having honey *thoroughly ripened* in the hive before taking it off, and protest against the practice of removing unripe honey of any kind except when it has to be done.

THE BUILDING OF DRONE COMB.

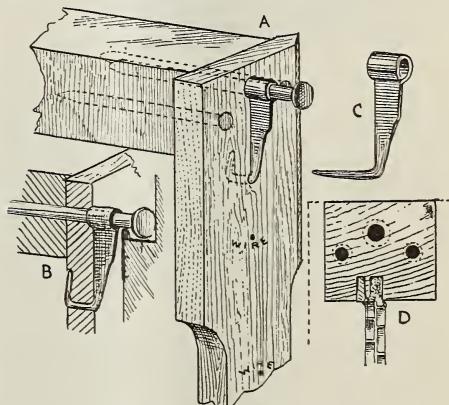
The following is translated from *Feld und Flur*, of Dallas, Texas:

Many wrong views exist among bee-keepers in regard to the building of drone comb. Heretofore the view has been held that the drones, during the time of their development in the cell, require a far greater amount of honey and pollen than later as the fully developed insect, and that their breeding is, consequently, in a great measure detrimental to the bee-keeper. Through Planta's investigations it has been determined that the drone food contains only 1.17 per cent of sugar content, while that of the queen food contains 17.9 per cent, and that of the worker food not much less. The drone food is, therefore, in no way as great as is generally supposed, and the removal of the drone comb is absolutely without grounds. Under certain conditions the same is even most necessary and essential, not only for the breeding of the necessary drones for the mating of the queens, but also because the whim of the bees is increased, for the simple reason that, through instinct, they desire drone comb. A total suppression of drone comb is, therefore, very harmful, and a reasonable amount should at least be allowed them, especially before swarming and at the end of the honey season.

A NEW HOFFMAN-FRAME SUPPORT.

Where propolis is bad there is considerable trouble about breaking and splitting off the ends of the top-bars by which the frame

is supported. In one of our yards a great many of such broken frames have caused a great deal of annoyance. The ends broken off the frames drop down into the hive and mash bees. Burr-combs are built in the free space thus made above the frame, and the bottom-bar is glued below so that it is impossible to remove the frame without breaking the comb; consequently different makes of frames were tried, and now I think I have struck one that will solve the problem. It is a great improvement over the old nail support, which had a way of tearing loose. This support has a reinforcement to it combined in the end spacer, which obviates this objection. The engraving will show the support in detail.



I have tried several of these frames, and found them the most satisfactory that I have ever handled. The frame ought to be made cheaply, as the ends of the top-bar and the upper end of the end-bar are cut off square. Both wood and extra labor are saved. The support is the strongest I have seen on any frame. The nail is a heavy eight penny, just the right size. The head is exactly the right size too, and prevents the frame from falling off the rabbet. Much better than frames with the wood supports does this frame stay on when the hive is handled and the frames are shoved cross-wise. In putting up the frame, two quite large nails can be used in nailing on the end-bars. That already makes a stronger frame, and it is made possible because the nails can be driven into the thick wood part of the top-bar. In nailing on the spacer and the eight-penny nail it should be done as follows: The spacer-point, which is at a right angle to the rest, is placed in the pierced hole; the upper end with its loop is brought to its proper point; the large nail is inserted and driven down the right depth. Next the point of the spacer is clinched, which draws all up good and tight. You will readily see that, if the spacers are all of the same length when they are inserted in the hole pierced for them, and the loop brought into the proper position, it marks the point where the large nail should be driven. Thus all frames will hang even.

The combined spacer and brace is a dandy, in my mind. It spaces the frames and holds the nail in place so that it can not wear out at the top under the weight of the comb. It can be made very cheaply, I should think, much as are made the flattened staples on candy-buckets. Such a frame possesses the strongest joints, where the end-bars are nailed to the top-bar, that I have ever seen.



BRO. HUTCHINSON, of the *Bee-keepers' Review*, and I do not agree as to the merits of the Hoffman frame and some other devices introduced in modern apiculture; but that does not in the least conflict with the cordial friendship that exists between us. In the bee literature of 25 years ago the man who dared to differ with another dared to make an enemy. I am glad that day has gone by now.

THE date of the next National bee-keepers' convention has been settled on for Oct. 28 to Nov. 1, at San Antonio, Texas. This is in the center of a great bee country, and the convention will be one of the largest and best, I will venture to say, that has ever been held in the history of the Association. Better make your plans to run down to Texas and see what a wonderful country there is there. See Convention Notices elsewhere for further particulars.

MRS. COMSTOCK'S BOOK, "HOW TO KEEP BEES."

IN relation to the review by A. I. Root, in our last issue, especially to that part of it where he spoke of the beautiful photographs in the book, we have received the following letter from Mr. Hutchinson which will explain itself:

Friend Root:—I have just read your most excellent review of the new book, "How to Keep Bees," by Anna B. Comstock. I notice you speak in high terms of praise of the engraving on page 50, and wonder who was the photographer. The credit for that photo, also for the one on page 63, ought to have been given to your humble servant. I sold the negatives to Mr. McAllister for him to use in making lantern-slides, and Doubleday, Page & Co. got the photos from him, but did not know who made the negatives, which accounts for the error in giving credit. The publishers write me that they will gladly correct the error in the next edition.

Flint, Mich., July 10. W. Z. HUTCHINSON.

HOW THE COMB-HONEY LIE IS KEPT ALIVE;
THE "SMART ALECK" RETAILER.

I HAVE about come to the conclusion that the comb-honey lie receives its main source of inspiration, not from the yellow newspa-

per or magazine, but from the grocer's clerk, the "smart Aleck" who "knows it all." Manufactured comb honey? Yes, he knows all about it. He has the two kinds for sale in his store. Then he will pick out some dark-looking ill-flavored stuff, and call it "manufactured," while the nice-looking well-flavored article he will denominate as pure bees' honey. We have pretty near silenced the newspapers, but they will break loose again with some more "interviews" unless we can put a plaster over the mouth of some of these know-it-all grocery chaps. The Honey-producers' League is going at the matter in a proper and systematic manner—that is, giving out literature to the retailers so that they may have their eyes opened, for we must assume that some of them have been blind to the truth, because we bee-keepers have made no effort to throw the strong limelight of facts before them.

Bee-keepers everywhere should keep their dark and ill-flavored comb off the market. Feed it back to the bees; sell it to the baker—do any thing with it but put it up where it will kill the sale of all honey, good and bad alike. Better still, yank off instanter section supers whenever bad honey comes in.

LAVA SOAP FOR REMOVING PROPOLIS.

SOMETHING over a year ago the *Review* contained an item to the effect that lava soap was one of the best articles that could be used for removing propolis from the fingers. We tried it somewhat, and were pleased with its results. We laid in quite a stock of it, and soon found our employees were very partial to it for removing grease and general shop dirt. To-day I got my hands pretty badly smeared up with a yellowish-brown propolis, "and now," said I, "is a good time to test the lava soap." It had absolutely no effect on the propolis. I rubbed and scrubbed; but the more I lathered and soaped, the more it seemed to stick. I then went to the benzine-can, sopped my hands in the liquid, and soon had the satisfaction of seeing the propolis roll off. A second application of the soap made my hands nice and clean.

J. A. Green, a short time ago, in his department, said lava soap would not remove propolis, or at least not such as he had in his locality. He as well as the rest of us concluded that it was a case of where locality affected the result. I am now inclined to think it is a little in the propolis. The transparent red article, as I remember, would come off by the application of this soap; but the gummy yellowish-brown stuff would resist almost every thing except gasoline, alcohol, and the like.

WHAT SHALL THE HARVEST BE?

THE conditions portrayed in our last issue were somewhat discouraging; but within the last two or three weeks there has been a change for the better. While the rains have continued, the weather has been from

warm to hot. In our own locality, for example, we have had ideal honey weather. The bees are working better now than they have been for some time back; and from stray reports from various States I judge this to be the condition elsewhere in the clover belt. White clover in our locality is still in bloom. Indeed, it will continue to bloom so long as we have these rains and warm weather. Red and peavine clover have not been cut to any extent for the simple reason that the ground is too soft to support a mower. Consequently we find the bees working well on both clovers that are usually cut long ere this. If the conditions throughout the other sections of the clover belt are the same as here, there will undoubtedly be a fair crop of clover honey for the market after all. Just now the reports are few and scattering, for the reason that bee-keepers hardly know what to say. The conditions have been so variable that it is impossible to bank on any thing. Honey has been coming in in our locality, interrupted by bad weather, for a period now of over six weeks; and if these warm rains continue we shall secure a fair yield of honey yet.

So far there are no reports to indicate a large amount of honey actually secured; and all we can say is that the prospects are much more favorable than we had any reason to suppose they would be, two or three weeks ago.

In Colorado, under date of June 24, Mr. Frank Rauchfuss, Manager of the Colorado Honey-producers' Association, writes:

Mr. Root:—The crop situation has not improved any in Northern Colorado since I wrote you last. The best reports I got were, "Bees are making a little more than a living." In some places feeding has to be kept up, Alfalfa is now in bloom, and farmers are cutting it for hay to quite an extent already, so it does not look as if we should get much out of the first crop of alfalfa.

Denver, Colo., June 24. **FRANK RAUCHFUSS.**

Later.—Since making my crop report on June 24th there has been no change for the better. The vicinity of Denver, and all the country north of Denver up to the Wyoming and Nebraska line has no surplus to show yet. In the southern part of the State there was a very light honey-flow for a short time, but I am informed that this ceased about ten days ago.

Along the Grand and Gunnison Rivers, in the western part of the State, there has been a light flow, and some surplus has been stored, but very little finished comb honey in sight even there.

THE COLORADO HONEY-PRODUCERS' ASS'N.

July 10.

Frank Rauchfuss, Sec.

Since the foregoing report was made we have received the following from the California National Honey-producers' Association:

CALIFORNIA.—Southern California will have about one-third of a crop. Central California, prospects are for a fair crop.

F. E. BROWN.

COLORADO.—Crop will be about 60 per cent of full crop. Worms are destroying honey-plants. Eastern slope cold and windy.

J. U. HARRIS,

National Bee-keepers' Association.

ARIZONA.—Honey crop to date is lightest we have had in many years.

W. M. ROHRIG,

Secretary Arizona Honey Exchange.

TEXAS.—Fair crop expected.

Eastern.—Too early to estimate. Weather has been unusually cold and rainy.

CALIFORNIA NATIONAL HONEY-PRODUCERS' ASS'N.

Los Angeles, Cal., July 6. **H. J. MERCER, Sec.**

PROGRESS OF THE BABY NUCLEI AT MEDINA.

SOME two or three weeks ago we were becoming a little discouraged over our baby nuclei, but now they are panning out well. Out of 200 babies we took one day 42 laying queens. We have been taking out since all the way from one to two dozen per day. The dual plan of introducing seems to do as well as it does in larger full-frame nuclei. In some cases we take a laying queen out of a baby box, and, in four days after, take out another. As explained before, in most of these minatures there will be two queens at a time—a virgin that has been released and accepted, so that she is free to take her wedding-flight when she pleases, and another one caged. As soon as she is laying, the other virgin already caged for several days in the baby is fixed so that the bees can eat out the little plug of candy and release her. Theoretically, when conditions are ideal we can take out a laying queen every four days; but practically I do not suppose we will come any nearer than one a week, and in unfavorable weather not as well as that. If it were not for the dual plan we would fall far short of these figures.

Of course, further developments may cause me to change my mind; but the introduction of this miniature-nucleus plan, I now think, is the longest step in advance that has been made in queen-rearing for many years. Two hundred bees apparently can do what ten or fifteen times that number could on the old plan with large frames.

I am free to admit, however, that, when a dearth of honey comes on, we may not be able to secure any thing like as good results as we are getting now; but until within two or three weeks, as I have stated, these little clusters were very disappointing; but we were given to understand that brood was not essential. We have learned since that there must be in addition a virgin or a cell and daily feeding if not well supplied with stores in one of the little combs. I see no reason why the honey-producer with a dozen or so of these babies can not do his own requeening at a very slight cost. A couple of seven-to-the-foot sections in a small box will do almost as well as a factory-made outfit.

EXPERIMENTS IN RENDERING WAX; THE VALUE OF A WAX-PRESS.

IN buying up an old bee-yard we obtained a lot of old crooked combs of doubtful history, and we therefore decided to melt them up. Two or three times lately correspondents have said that the old-fashioned way of putting old combs in a cheese-cloth or burlap bag, immersed in a kettle or wash-boiler of hot water, would yield as much clean wax as any of the modern steam-presses. It was argued that the bag of comb under water, frequently punched with a stick, until the comb was thoroughly broken, would yield up all the free wax to be obtainable by any process. I told our wax-room boys to test this out with these old combs very carefully. A large burlap

sack was made and into this was packed a quantity of combs. It was then immersed in a big extractor-can of boiling water—the water kept hot by means of a steam-jet. The bag was thoroughly punched for perhaps half an hour, then weighted down. The surface was next dipped off. Last of all, the contents of the bag were then put into the German wax-press and squeezed. Now for the results: In some cases the amount of wax taken from the bag punched under water was about 33 per cent of the whole amount obtainable, and other times 50 per cent. I had supposed the amount would be much larger; but when the refuse in the bag was put into the press we found we were able to secure twice and sometimes three times as much; and, what was more, the wax was cleaner and better. The wax skimmed off from the hot water contained a large amount of dirt, while that from the steam-press was comparatively clean and yellow. I am satisfied from the experiments, which were repeated again and again, and always with the same results, or practically so, that the old bag plan of melting beeswax used to waste somewhere about 50 per cent of the amount of wax in the combs.

This may sound a good bit like shop talk. One doesn't have to *buy* a press. He can make a very good one out of a half-barrel, with a 4×4 oak studding for a lever.

ARE WE RETROGRADING?

BRO. HUTCHINSON, in commenting on an article that appeared in the *Rural Bee-keeper*, by L. Stachelhausen, criticising the Hoffman frame, in the last *Review*, says:

I know that good practical bee keepers (some of them) prefer the Hoffman frame, and the argument used is that hired help can't space them in a regular manner. The man who has not in his eye enough of mathematics or adaptability enough to be taught to space frames with sufficient exactness is too low in the scale of intelligence to be given a place in the apiary. Accurate spacing of frames is a small problem compared with some that must be learned by the really helpful helper.

I am sincere in believing that the addition of projections on our brood-frames, lock-joints (so-called dovetailing) to the corners of our hives, reversible bottom-boards, or those with a "drop," covers with more than simple cleats to prevent warping, are simply steps in getting away from a simplicity that should be cherished as the apple of the eye.

If Bro. Hutchinson has an idea that the only merit of the Hoffman frame is regular spacing, then he has failed to see some of its good points. Personally I never had any trouble in spacing the old-style Langstroth; but the great mass of small bee-keepers whom I have run across either don't know how far to space them or haven't that mathematical eye. I like a self-spacing frame after the pattern of the Hoffman or full closed end—one that I can handle in twos and threes. I do not like, for example, to have to *finger over each frame* as one has to do with the old-style Langstroth to get the brood-nest in proper shape. I have been out working with the bees more this season than usual, and I have not yet used a pry of any sort on our self-spacing frames

(I don't mean that a pry is not a convenience and even a necessity when the propolis is cold).

As to the lock corner of the hives, it certainly makes a stronger joint; and where the hive-bodies are handled roughly or moved to outyards this is quite an item.

Regarding the hive-covers, we should all like it if we could get back to the old flat cover; but the scarcity of lumber makes this impossible. It is not a question of *preference*, but a question of *availability and price*. One can, in a small way, perhaps, buy a few wide boards for his own use—wide enough to cover his hives, with a simple cleat at each end; but the big factories can not begin to do it, and are compelled to use three-piece covers. Really I can not see that the three-piece cover, Hoffman frame, Dovetailed hive, and bottom-board, are any more complicated than Mr. Heddon's divisible-brood-chamber hive with closed-end frames and thumbscrews, break-joint slat honey-board, and "drop" bottom-board,* which Mr. Hutchinson recommends in his book, "Advanced Bee Culture." If "simplicity" is so important a desideratum, then the Heddon hive (and a good one in my opinion) should be discarded.

BASSWOOD in this locality has not amounted to much. The young trees gave down liberally whenever they blossomed; but generally this seemed to be an off year for blossoms.

Do not put on to the general market No. 2 and off and mixed grades of comb honey. Feed such back to the bees, extract them—do any thing with them rather than spoil the market.

IF the honey crop this season could be measured by the amount of clover in bloom as compared with former years, we could flood the market several times over. No danger of that.

As we have said before in these columns we say again, sell your honey early. New honey, right off the hives, always has the advantage. Consumers learn to expect new honey just as they expect new maple molasses. It is generally poor policy to hold back, waiting for better prices. Anyhow, manage to get it sold before the holidays—the sooner the better, as a rule.

THE Wooster (Ohio) Summer School of Teachers made us a visit a few days ago to look over our bees, and to post themselves on one department of their nature-study work—bee culture. They came over in a body, 150 strong, headed by Prof. E. F. Bigelow, one of the department editors of *St. Nicholas Magazine*. We will give you a picture of them later, after we had inducted them into the science of bee-keeping. More anon.

* This bottom-board is made now by most factories, yet in the quotation just given it is condemned.



It is an encouraging sign for bee-keepers when the press in general devotes so much space to illustrating the mysteries of the hive. The *Cleveland Press* for June 20 gives about half a page in describing H. G. Quirin's methods of raising queens artificially at his yards in Bellevue, Ohio. Further than that, the article is well illustrated. The writer was in the dark, however, on some points. He says, "Mr. Quirin is the only man who is known to be successfully hatching out queen-bees by artificial methods." That statement will make G. M. Doolittle and E. L. Pratt open their eyes, I think, as well as many others. Furthermore, the reporter conveys the idea that it is a great secret, while in fact it is as well known as the use of the incubator for hatching chickens. In reading interviews of this kind one is often surprised to see how much behind the times in point of general information the reporter is. But the article as a whole is very gratifying, as it indicates the general interest in bees from an economic standpoint. It will be interesting to note the estimated annual income of Mr. Quirin from his bees, saying nothing about the net profit. We note:

3000 queens at \$2.....	\$6000
6000 lbs. comb honey at 12½.....	750
2000 lbs. extracted honey at 9.....	180
100 colonies of bees at \$6.....	600
100 nuclei at \$2.50.....	250

Total.....\$7780

The reporter says Mr. Quirin beats Dame Nature at her own game. Not at all. Nature has no game. Mr. Quirin simply enables Dame Nature to work to better advantage than is usually the case.

Mr. J. S. Barb, of Spokane, Trumbull Co., O., made us a visit last week. To the great surprise of the writer he said he wanted to "see Stenog" before going home, and he did. Mr. Barb is a veteran in bee-keeping, and has read this journal for 21 years. He mentioned a skep which his grandfather made and used in 1821-84 years ago. I'm looking for somebody who can beat that. I understood Mr. B. to say his family had occupied that place since that time. It is a pleasure to meet these old bee-keepers.

The *Leipziger Bienenzeitung* sounds a warning note to those who climb trees to capture runaway swarms. A German bee-keeper in Neuschleibach, Germany, had the misfortune to fall from a ladder which he had ascended to get a swarm. Immediately

under him was a picket fence on which he fell, literally impaling himself through the abdomen. He soon died in great agony.

THE AMERICAN BEE-KEEPER.

The *American Bee-keeper* for June is fully up to its average point of interest, especially in editorials, which constitute a remarkably large part of that journal.

The following, concerning artificial swarming, is worth keeping:

We would caution all inexperienced bee-keepers who are planning to experiment with artificial swarming to be sure that the bees, before forcing, are given an opportunity to fill their honey-sacs with honey or else supply the new colony with a comb of honey. In default of this, give them feeder of honey and water, half and half. If the honey is very thick, more water may be used. Use warm water in mixing, and let the mixture become quite cold before giving it to the bees. If honey is not available use sugar and water, taking one part of sugar to three of water. Never use sugar if it can be avoided, for, while it is a perfectly good food, so far as the bees are concerned, it gives good ground for charges of feeding sugar to make honey.

If the condition of things implied in the following, under the head of "Duples," really exists, something ought to be done:

It is a strange commentary on the simplicity of bee-keepers, their blindly following biased advice, wasting money on one fad after another, while the vendors of the constantly changing hives and tools wax rapidly rich.

The tone in which the above is written rather leads one to think that the writer penned his criticism more in a spirit of pettishness than in the tone of true criticism. If improvements are to be tabooed, what shall we do? What was the first typewriter compared with those of to-day? or the sewing-machine? or the locomotive? These so-called "fads" are suggested by the experience of bee-keepers; and I am glad to note that the W. T. Falconer Mfg. Co. is not much behind the procession in supplying useful things to the bee-keeper; nor Lewis and others who might be mentioned.

The venerable J. B. Hall, of Canada, seldom writes for the press; but in the journal under review he says, in speaking of Canadian honey:

As a honey-producer I was not aware that this part of North America produced a superior quality of honey until long ago, when the American Bee-keepers' Association held its annual meeting at Toronto during the time of the great annual show, and, of course, visited the exposition. The first man to call on us was our friend Dr. Miller. I did not "know him." His question was, "How do you get it so nice?" I asked him if he was from south of the line, and he said that he was. I had to inform him that nearly all good things, from men down, were produced far north. At this he laughed.

Our next visitor was our good old friend A. I. Root, of Medina. He stated in his journal, *GLEANINGS*, that it was the best honey that he had ever been his good fortune to behold, and that he was not prepared to see old Mother Earth make such an array of honey of such a choice quality.

A correspondent in New York city suggests that correspondents use capital letters when speaking of the four seasons. The editor says: "He gives no reason for desiring this change, and none is apparent to the editor." Right you are, Mr. Hill.

Only when the seasons are personified should they have capitals. The same correspondent suggests that all slang be omitted from the bee journals. There is slang and slang. Some so-called slang is too coarse for print, while other slangy expressions are so directly to the point that they soon become universally adopted. The slang of to-day is the language of to-morrow. It is easy to use slang to too great an extent. In descriptive matter, such as the bee journals use mostly, plain and direct language is the best. We expect a good joke in nearly every sentence a Hasty writes, but none at all from a Doolittle; and yet each is a model writer in his way.



ARID REGIONS.

As some of our most excellent bee localities are in arid regions, these sections become of more than ordinary interest to bee-keepers. By "arid regions" we refer to those with limited rainfall. Different writers place the limit at varying amounts; but I should say that any country that has an average rainfall of less than 20 inches—some put it at 25, others at 30—might very properly be regarded as arid.

Another definition for an arid region might be one where general farming could be carried on only through irrigation. There are many arid localities in our country included in the plateau regions, or region of the great parks—Colorado, part of Utah and New Mexico, etc.—the Basin region, that section of our country between the Rocky Mountains and the Sierra Nevada, including Nevada, Utah, and Arizona, and the southern part of California. It is true that in these countries there is sufficient rainfall to grow a grain crop without irrigation, though even this is uncertain, for often the rainfall is so slight that there is not enough moisture in the ground to carry the crop through.

There are some striking peculiarities in the soils of arid regions. There is always likely to be in our country, and, in fact, in all countries, a great deal of native fertility in the soil unless it has been washed out. Of course, it has not been washed out in arid regions, and so those who have not been used to such soils are always surprised, upon first examination, to note their exceeding fertility. These soils are not only very rich but are often very deep. I heard Dr. Hilgard remark once, facetiously, that the Southern California farmer is a very fortunate man, for, although he purchased but a single farm, he would have several, each on top of the other. It is well known that in the East we often entirely destroy

the fertility of our soil if we drag the subsoil to the top. I had an interesting experience on my place here at Claremont. Although I graded my lots down some feet, I found that the entire lot, after the grading, was wonderfully productive. In arid regions, then, if we only have water, we usually find that we can count on wondrous fertility. This is, perhaps, the greatest reason why, with plenty of water, agriculture is so profitable in arid districts.

VEGETATION IN ARID CLIMES.

Every student of plants is aware of the great amount of transpiration that takes place in the growing of any of our farm crops. I have seen the statement that a single rank crop of red clover or alfalfa would carry off, through transpiration, six inches of rainfall. We can see, then, that it would be greatly to their advantage in an arid region if the plants could in some way lessen this transpiration. By "transpiration" we mean the moisture sent off by the leaves, and thus lost to the plant and soil. It is very interesting, in studying the plants of an arid region, to see how they have managed, if we may so speak, to lessen this loss of water. It is the leaves, or foliage, that carry on transpiration. In all of the yuccas and cacti we have no foliage, and the stems do the work of leaves. Here, then, the surface is reduced to the limit, and this form of vegetation can endure the greatest excess of drought. We understand, then, why we see the great cacti in the deserts of our mid-continent. In humid regions the leaves are broad, as this fosters transpiration and encourages growth, for here water is plenteous. In arid regions, on the other hand, the leaves are reduced in size, and often finely divided, and thus again we have the leaf surface at a minimum. In other cases we find the leaves varnished, and often very viscid, both of which conditions lessen transpiration, and so save the plants in time of extremely dry spells.

Another way that this same result is accomplished is by fine hairs or minute scales on the plant, which serve greatly, without doubt, in many cases, to lessen transpiration and conserve the moisture. This explains the white appearance of white sage and many other plants of arid districts.

There is just one other provision that I think of that works toward this same end. Of course, the direct rays of the sun would hasten transpiration; therefore we often find the leaves turned so that their edge rather than their face may be exposed to the direct sunlight.

PLANT ECCENTRICITIES IN ARID REGIONS.

When I first came to California I was constantly surprised at the curious ways of many of our plants, as they seemed to act almost as though intelligence might direct them. We have only to remember that, in all arid regions, vegetation at certain seasons would be very slight. Perennial plants, unless remarkable, could not exist; so plant-

eating insects, 'herbivorous' birds and mammals, would often be put to it to get a sufficient food supply. The plant, then, that would be saved from such animals must be wondrously protected. Many of these plants have a way of hiding from such foes, for we find them growing only amid cacti or thick brush, often thorn-clad, which prevents the approach of hungry bird or mammal. Many other plants are bitter, and so not toothsome to hungry herbivore. Again, we find many plants sticky with a viscid secretion which is, without doubt, repugnant to all vegetable feeders. Many plants, like the various cacti, are a veritable pin-cushion, except that the needles in this case are all with their points out. Woe be to bird, beast, or man that comes against these spinous cacti. They are cruel in their thrust, and we do not forget too great intimacy with them for hours after we first feel their prick.

Another peculiarity that specially marks arid vegetation, and which is of much importance to the bee-keeper, is the very long period of bloom and the varying period of germination of seeds of the same plant. White sage will be in bloom for weeks, and the wild buckwheat from early June until frost. This is obvious provision to meet the fitful seasons of rainfall. With the first rainfall some seeds germinate. If early rains are frequent and abundant these mature, and all is well. If, on the other hand, only late rains come sufficient to carry the plants along, then the later-germinating seeds will sprout and grow while those that first germinated with the scant early rains will come to naught; yet the plants will be multiplied by the later plants. A long blooming period is likewise helpful, as, with scant rain, the early bloom may be all that will have vigor to mature the seeds; while in the same seasons of drouth, when all plants will have a sorry struggle, late fogs and damp may favor the later-blooming flowers, and they alone have vigor to develop the seeds. In case of very late bloom, like that of the wild buckwheat, the later flowers may be helped by the early fall rains of the next season. Indeed, we may well believe that the two peculiarities last mentioned are the direct result of our arid seasons, and they are, beyond question, the reason that we are so remarkable as a honey region.

EARLY HONEY WHITEST.

We have all observed that the early honey is whitest, and likewise of pleasantest or mildest flavor. Clover and linden in the East are finer than the goldenrod and boneset. Here the sage is matchless, while the buckwheat, like the honey from the cultivated buckwheat, is dark. Our buckwheat is not very dark nor yet very strong, yet it is amber, and never can compete in the market with the delicious and beautiful sage honey. In arid regions the soil gets very dry as the season advances, and only the plant with very long tap roots will do much late in the season. Thus in arid regions the honey and all other plants, with very slight

exceptions, will be early, and so we are sure of beautifully white and exquisitely flavored honey. Thus such arid regions as Southern California will not only make, occasionally, records of astonishing crops, but the product will ever top the markets for price, as the color and flavor must be of the best, from the very conditions of growth. If we could only eliminate our seasons of very scant rainfall, then we should have the banner honey region of our country, as we have the most beautiful climate and scenery.

HOFFMAN FRAMES.

Wood Screws as Frame-spacers.

BY W. H. LEWIS.

Nearly all the writers on the frame question, directly or indirectly admit that self-spacing or fixed-distance frames of some kind are an advantage. I suspect that those who advocate the Hoffman frame get all their supplies from one good firm, and are careful to put them together right; and if all supply manufacturers made the Hoffman frame the same size and pattern, and the users nailed them up square, and turned the V edge the way you direct, there would not be much complaint about them. I will give you my experience.

I started about twelve years ago with Hoffman frames in Simplicity hives, with the top-bars flush with the top of the hive. I quickly changed the hives so as to give a bee-space at the top, and would not tolerate the other style. During this time I have bought and sold quite a number of bees and hives, with the exception of one hive which had loose hanging frames. They were all Hoffman, some locally made, but the most from regular supply dealers, with the V edge turned every way except the right one — some without the V edge, which, if I ever return to Hoffman frames again, will be the only kind I will use, as I believe it is the best. I have spent a lot of time nailing on the ends of the frames that split off, and turned the V edge to follow your directions until I got thoroughly tired of it and began to look around for some way out of the trouble. Last winter I planed off the Hoffman part of the frames of about 25 hives, and put a $\frac{1}{8}$ screw on the end-bar on the same end that you turn the V edge. I made a gauge $1\frac{1}{2}$ inches wide, to set the screws the proper width; then I sharpened the end of the top-bars to about $\frac{1}{4}$ inch square so as to reduce the propolizing surface to a minimum. I used these frames the past season, and am well pleased with them. The sharpening of the end-bars is a distinct advantage, as so little propolis is put on the $\frac{1}{4}$ -inch square at the end of the frame that they were easily moved. I like the screws better than the staples or Hoffman end-bars. They are easily put the exact distance, are rigid, have a bigger point of contact than staples, and can not be jammed further into the frames either way. These screws may be

objected to by some who extract, but I can not see how anybody can touch them with the extracting-knife with ordinary care; indeed, hard-wood screws or plugs could be used instead of metal.

DISTANCE THAT BEES GENERALLY FLY.

Last spring while feeding my bees with a Miller feeder and thin syrup, placed about fifty yards from the hives, I noticed that bees were coming to the feed from the bush. I took the feeder and followed them up, covering the feeder up and moving as far as I could follow the line and then open it for the bees to locate it and get another start, thus moving the feeder about 100 yards, and waiting until a great many bees, both from my hives and from the bush, came to the feed. I noticed that, when I got something over half a mile from my place, my bees were getting scarcer, and the bees from the bush were more plentiful; and as I neared the bee-tree, which was about one mile from my place by the section lines, very few bees from my colonies came to the feed, while those in the tree appeared in swarms. I took the feeder and went back toward my place in the same manner I came; and the nearer I got home I had more of my bees and less of those from the tree, until nearly all were from my colonies, as at the start; and I noticed that, about midway of the mile, the bees appeared in about equal numbers from each place. Then I went back to the tree, with the result as first stated.

My bees are nearly all Italians, with stock from Alley, Moore, and your five-dollar breeder. Those in the bush are hybrids, I suspect from my own colonies, as I have the only Italians in my neighborhood. What will those who claim that bees will fly five miles to gather surplus say about this? I have my doubts about bees flying above a mile to any extent.

BEE-PARALYSIS—HOW I GOT RID OF IT.

About five years ago I imported bee-paralysis with a queen from Texas, although the queen-breeder denied that he had it in his yard. I had never seen a case of it until I got the queen. It might have been carried by the escorts in the cage, and I believe the disease is as contagious, or is transmitted as readily, as any other bee-disease. However, the colony I introduced the queen into had it badly, and the second winter it starved out. I burned the hive and melted the combs up. I noticed, however, that summer, that three colonies on either side of the one that first had it were affected, so I shut them up one evening with a wire screen, and moved them about 200 yards away, leaving them shut up about three days; then I took the screens off and left them to shift for themselves. They still had the paralysis. About a week after, I had a prime swarm. The same evening I killed the queens and brushed the affected bees on new frames with starters and new hives, disposing of the old hives and combs as I did in the first place. The next evening I opened the colony that had swarmed and gave a frame with a queen-cell to each of

the brushed colonies. In due time the queens hatched, and the colonies built up; and I have never seen a paralyzed bee from that time to the present. In my "locality" I either cured it or scared it off by this treatment.

New Westminster, B. C.

[There will be danger, I should suppose, that the wood screws, if they entered into the edge of the end-bar, would be liable to split the wood. Why would it not be better to put those screws into the sides of the top-bar?

One objection I see to such screws is that the peculiar shape of the head is such as to act as a sort of hook, while the staple with its rounding head will slip past the top-bar on the next frame. Perhaps the round-headed wood screw might, to a certain extent, overcome the objection.

The screw would certainly have an advantage over a nail in that its depth in the wood could be exactly regulated at any time; and, no matter what the side pressure is in moving the frames back and forth, there will be no danger of crushing the screw deeper into the wood, thus destroying the exact spacing.

I think it is generally conceded now that bees rarely fly beyond a mile and a half in quest of stores; but that they may fly five or even seven miles has been proven beyond any doubt. Bees will sometimes fly from an island to the main land and *vice versa*, going a distance of five or even seven miles over water. Perhaps two-thirds of the bees would confine their range to half a mile.

Bee paralysis can be cured in the way you describe; but from reports we have had from others I should conclude that the same treatment generally applied would result in a failure. I would advise destroying the old queen and sprinkling all the combs, except those containing brood, and all the bees, with powdered sulphur. The brood may be given to healthy colonies, provided all the bees are shaken or brushed off. Of course, the old queen should be replaced by a young healthy one.—ED.]

MORE CONCERNING QUALITY OR QUANTITY OF HONEY.

Improve the Quality Before Advertising it.

BY GRANT STANLEY.

The article of Mr. R. A. Burnett, in May 15th issue of *American Bee Journal*, relative to the marketing of unripe honey, is not only one of extreme importance to all bee-keepers, but one that brings out the fact that many bee-keepers in their greed for gain have overlooked the matter of quality entirely. The article, coming as it does from one having a large experience in the handling of honey, should certainly arouse the bee-keepers of this country to more thought in this direction. It has been my opinion for some time that this has been to blame for the trouble that many bee-

keepers have had in disposing of their product. There has been entirely too much effort put forth in the matter of securing a few extra pounds of honey; and entirely too little in improving the quality of that which is secured.

We seem to be living in a fast age—an age in which one man is doing his utmost to outdo another; and where individuals are unable to accomplish this end soon enough, trusts of every description have sprung up to hasten the matter. There is too much quantity and not enough quality. But remember that only when bee-keepers can warrant the quality of their product to be even above suspicion, then, and no sooner, will honey meet with the demand it merits.

Inferior honey, like inferior goods of any description, is only the result of careless methods employed in its production. When we see a good article of any kind we have just reason to believe it is the result of no small thought and intelligence. Good articles and careless methods never did go together and never will. The man who endeavors to produce things simply to sell can not expect to cope with the man who does his utmost to cater to the wants of the people. Articles of good quality and neat appearance must sell; there is no holding it back, for the people demand it, and are willing to pay for it, but they will not pay their money for an inferior article if they know it. There has been considerable said about teaching the public to use honey; but permit me to say that we shall never be able to teach the public to use inferior honey. Before people will risk their money on an article of doubtful nature they will purchase some of the well-advertised syrups of which there is scarcely an end.

It has been said that "a good article is half sold while a poor one begs a market," and this surely applies as well to the production of honey as to any other business. I fail to see why some bee-keepers will exhaust every effort, yea, even lie awake nights pondering how they may be able to secure a few extra pounds of honey, when, by turning their attention to the matter of quality, while they might not secure quite as many pounds, could invariably secure more money per pound, so that in the end they not only realize as much, but at the same time create a greater demand for their product.

If bee-keepers will turn their attention to the matter of quality I will venture the prediction that the sales of honey will not only be doubled over what they now are, but that the available supply of honey will control the price, the same as is now done with wheat, sugar, and other commodities. If honey is ever to become a commercial product this is the only way to do it.

It sounds like idle tales to say that many people do not know or have never heard about honey when it has been a great article during all ages, as shown by the frequent references to it in the Bible. Furthermore, it is used in medicines, candy, and pastries.

The only thing remaining for the bee-keeper to do is to awaken to the matter of quality, and then in connection with a little advertising (by the way, it is not good to advertise it until we can guarantee the quality to be the highest), make honey a staple article of the world.

Nisbet, Penn.

[We are glad to have this particular phase of this question emphasized, and shall be pleased to hear from others of our subscribers who are willing to co-operate in bringing up the standard of our honey to A No. 1 and Fancy, rather than to reduce the quality in order to get quantity. All dark, ill-flavored, or otherwise inferior honey should be sold to manufacturers—that is, the makers of pastry goods. It is usually the dark and ill-flavored honeys that cause the cry of "adulteration" from consumers. Then they are liable not to buy any thing in the way of honey.—ED.]

HOW "WE" INTRODUCED A QUEEN.

A Laughable and Interesting Experience; a "Swell Affair."

BY MRS. W. M. BURKE.

I am wondering if all beginners have the gay time we have had in trying to introduce a queen to a hybrid colony. By *we* I mean my husband and myself; and here let me say 'tis the same old case as "me and Betsey killed a bar." I playing the part of *me* ever since about a dozen bees got under my veil in helping hunt for queen-cells; so he has had the "work" to do while I stand off a safe distance and cheer him up. But I'm ahead of my "tale of woe."

We sent away for a five-banded Italian queen, thinking how we would love some little yellow bees, such as we saw at Dr. Miller's in East St. Louis, Ill., in 1904. Well, after nine or ten days of anxious waiting we one noon received her "royal highness." She was a queer amber-yellow color, and, as my husband remarked, "no great shucks to look at."

The directions we had read and re-read for introducing queens said, "Make your colony queenless;" "be sure your colony is queenless," etc., so we made *sure* by veiling ourselves and sallying forth and picking old Mrs. Queen and a small family of slaves out, and putting them in a box with a piece of screen over one side and a big slice of comb honey in one end. Then we patiently(?) waited two days, with the new queen in her cage in the cupboard, then we followed to a dot the directions that came with her, except, as Mr. Root preferred leaving the cardboard over the candy-hole, we left it there instead of taking it off as directed.

We laid the cage, wire side down, over the top of the brood-frames and shut up the hive. We left it five days, as directed, although it was a great strain on the nerves, and at the end of that time our curiosity was at the bursting-point. We hustled into

veils, gloves, jackets, etc., and rushed out to the hive about 9 o'clock one morning. My faithful "pardner" cautiously lifted the hive-cover, and I stealthily lifted out the cage, and, lo! our queen was still therein, and not more than three or four bees paying any attention to her, and not even the pasteboard over the candy-hole was nibbled a bit. Such hateful bees! I felt that I despised them. I commanded my husband to put the cage back and come away, which he did somewhat sulkily, for, be it known, he has a great fondness for poking around in and out of a hive (not shared by me).

We retired, and meditated over the contrariness of bees, and finally my husband said, "Let's take out our new queen and see if the bees have started queen-cells."

I hooted the idea, with this queen practically in the hive, but consented, and we removed the "Dago," as we called our new queen, and waded in. We found and cut out one queen-cell, unsealed, and then the bees got so wrathy we retired to give them time to cool off. After an hour or so we went at them again, and cut out five more queen-cells. One was sealed over. That did disgust us, and the bees seemed to go crazy, and a dozen, more or less, got up under my veil; and, by the way I moved and felt, I am convinced bee-stings *will* cure rheumatism, old age, or any old thing. I haven't moved so lively, nor, I may say, so gracefully, in all my life before—went over pea-fences, potatoes, strawberry-beds, and raspberry-vines like a bird. They stung me in my hair, on my neck, chin, hands, wherever they could get a toe-grip, and wept because I wasn't larger. I nearly lifted my scalp in my haste to shed veil and hat. My "pardner" nobly stayed with them, and got every thing in ship shape before he left; but then, *he* wasn't being stung.

After cutting out the queen-cells we waited until night, and, putting some long wires around the queen-cage, we spread two brood-frames and lowered the cage down among the brood. This was the night of the sixth day since we started to "introduce" her. We waited two days more, and then attacked the fort again to see what had been done.

On drawing out the cage we found it covered with and as full of bees as it could stick; and, after brushing some off, *there* was the queen yet in the cage!

Is she a hoodoo? I almost believe so. I advised my long-suffering husband to pry off the screen and let the poor thing out, even if they ate her up. He did so, and she flew against the inside of the hive and hopped on a partly empty foundation and hid from our view. Only two or three bees took after her, and none acted as if they meant to hurt her. Can it be she is finally introduced? or is there more agony in store for her?

My husband said she looked larger and thicker and yellower. But isn't "introducing," as practiced by us, exciting work?

When I get my colony (we have engaged two swarms from a neighbor) I think I will buy a nice young three-banded Italian (if

Mr. Root has any *warranted* to feed out of my hand, and her bees *never* bite, he's made a sale), pick out the old queen, wait half an hour, and then just open the hive and let my new queen run out of her cage into the hive. If they ball her I'll put them to soak in a tub of water; and if they let her alone, well and good. It is not so harrowing on the nerves.

My husband disapproves of my frivolous attitude regarding bee-keeping; but when one is such a favorite with them as I, I must have some fun to repay me for a stiff neck, worse than rheumatism, and a large aggressive jaw that causes my most intimate friends to look apprehensively at me, and the good man himself to keep a wary eye on me. My appearance is fierce with it, and, all together, I am a very *swell* affair.

I've written this yard or two of letter merely to ask if some kind bee-keeper won't tell me how old larvæ can be, and the bees yet create a queen from it. I'd like to know, for our warriors may yet have a queen of their own making up their sleeve. Nothing would surprise me in these bees. They even enthusiastically fly indoors for one nip more at me.

In three days more, if I am nerved up to it, I will hint to my wayward "pardner" that we take a still hunt for the Dago. I think I'll get more nibbles, but it's all in a lifetime.

Ladue, Mo., May 15, 1905.

[When younger larvæ are not available the bees may take any thing unsealed and try to make a queen of it.—ED.]

HOW TO KNOW FOUL BROOD.

BY E. R. ROOT.

A short time ago we received a pamphlet issued by the Irish Bee-keepers' Association, entitled "How to Know and How to Cure Foul Brood." There were two excellent half-tone plates in it that I have taken the liberty to reproduce and present to our readers. I was intending to make some extracts, but just now I am unable to lay my hands on it. However, Fig. 1 I take to represent a sample of healthy brood. The cappings are rounding, and the unsealed cells probably contain larvæ in various stages of growth, but which, owing to the darkness of the recess, did not show to the camera. HL appears to be two specimens that have been raised up to view, or they might be specimens of starved brood which will sometimes work its way near to the opening of the cell. DD possibly may show early stages of foul brood. Without seeing the comb from which it is taken it would be impossible for me to say. But the portion in the upper right-hand corner gives every appearance of being perfectly healthy.

Fig. 2 shows a specimen comb in an advanced stage of the disease. The cappings are flat or sunken, with ragged perforations. Sometimes there will be two openings in a cell; the cappings will not only be

sunken, but have a greasy, filthy look near the opening.

While we are talking about foul brood, it may be well to state that I am receiving anywhere from two to three samples a week

less. The same may be said of scorched or heated brood. I never knew pickled brood to show a sunken capping, much less a small, ragged, greasy-looking perforation in it. I am never sure of my diagnosis of this dis-

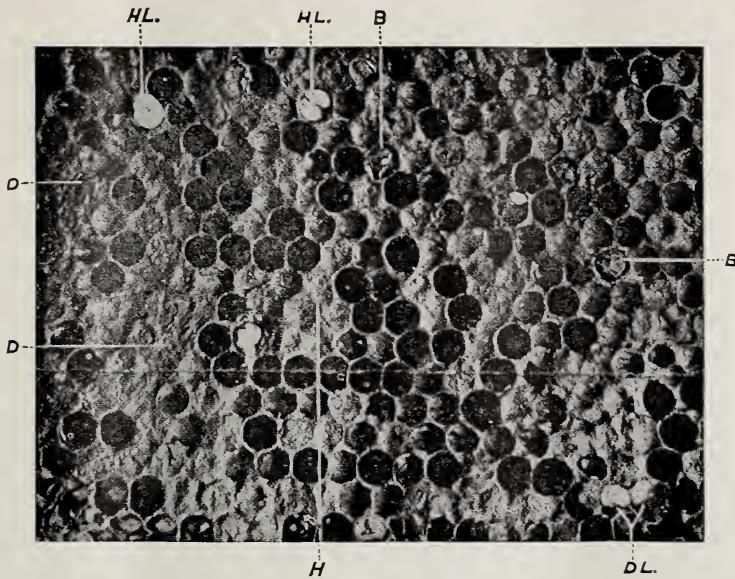


FIG. 1.

during the season of brood, for me to pass on as to whether it is chilled, heated, pickled, foul, or black brood. The majority of the specimens when received this spring were nothing but chilled brood that is harm-

ease until I keep it in an inclosed box in a damp place for a few days. At the end of that time it will begin to show a sort of mold or fungus. Pickled brood is not ropy nor stringy, neither is black brood, and the

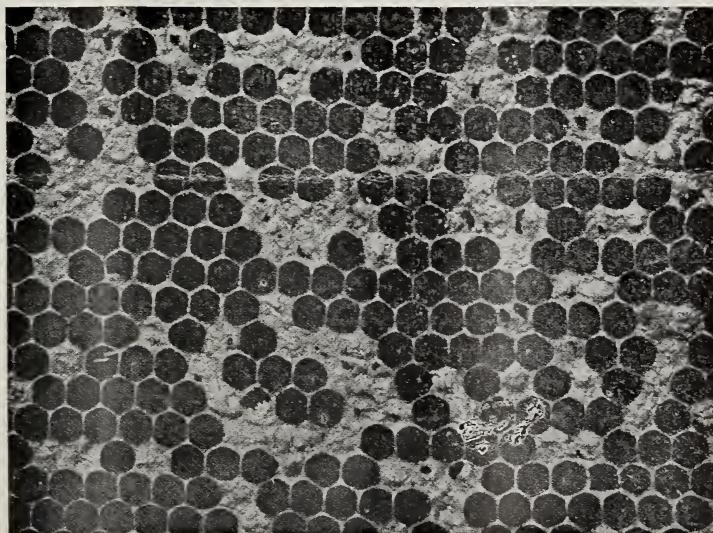


FIG. 2.

two look very much alike—so much so that, in some cases, I find it necessary to submit it to a bacteriologist for determination. Both black and pickled brood have a sort of sour smell, more particularly the former, as if it were a sort of ferment. Foul brood shows the most marked symptoms of any of the brood diseases. The cappings have an appearance, in the advanced stages, like that shown in Fig. 2. If a pinhead be dipped in the dead matter, and drawn slowly away, it will string out an inch or two from the cells. I have known it to stretch two or three inches, but rarely over one inch. The odor is very much like that from a cabinet-maker's glue-pot or a lot of dead bees. Indeed, the stench from dead bees is so nearly like that from foul brood that on several occasions I have hunted around until I found the source of the smell to be dead bees and not that from the dreaded disease. But not all dead bees will give off this stench. Dry ones will not, while those in a warm damp place will give off the sickening odor.

The color of the dead matter of foul brood varies all the way from a dark coffee color without milk in it to a light coffee color with milk in it. It may be dried like so much glue, or in a gluey stringy state *on one side* of the cell. It will not generally be found in the bottom of the cell, as many suppose. It looks very much like a cabinet-maker's glue, and strings out in much the same way when some object is dipped in it and drawn slowly away from it.

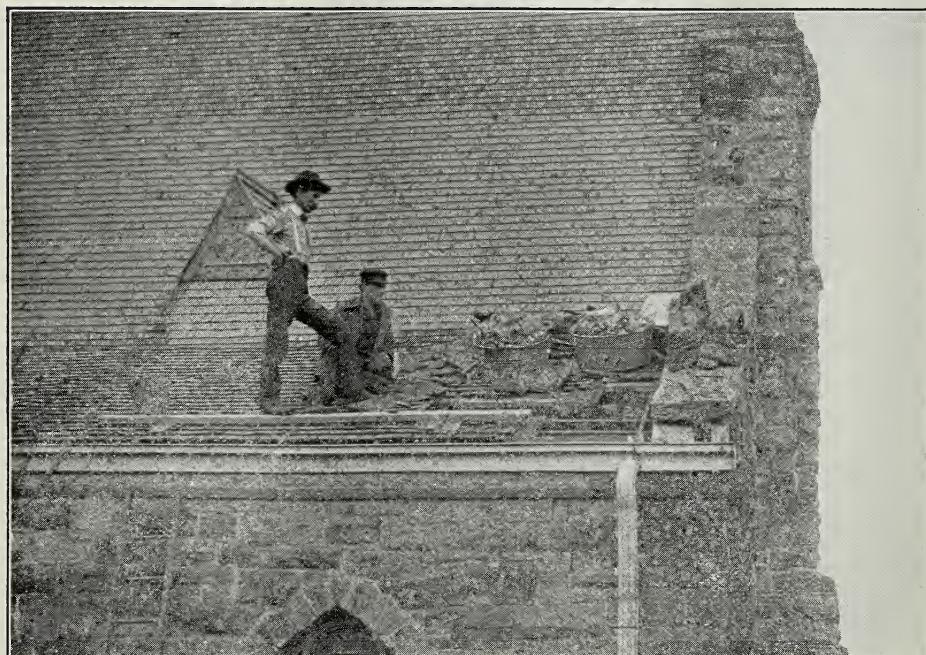
SWARMS OF BEES TAKING POSSESSION OF BUILDINGS.

How to Get them Out.

BY E. R. ROOT.

Every now and then I get a letter inquiring how to get bees out from between the clapboarding and plaster of a dwelling-house. Sometimes the bees locate between the two walls of public buildings. Nay, further, they even go so far as to domicil in church steeples. Some days ago Mr. M. E. Tribble, of Marshall, Mo., sent us a photo of a swarm that had entered a cornice and occupied the space between the rafters, the plastering, and the shingles of a stone church. The picture is here reproduced.

That the colony was an enormous one is shown by the two tubs of comb and honey. From the looks of the roof that had been torn away, the bees must have occupied some six feet of one section of rafter, and some two or three feet of the adjoining sections. It was impossible for them to get into the stone wall and so they occupied the next best place—the space immediately under the shingles. Whether the trustees or board of directors of the church authorized some bee-keeper to go and tear away the roof, taking out the bees, or not, is not told; but in the absence of any specific statement it may be assumed that some local bee-keeper was engaged for such service. The



A SWARM OF BEES THAT TOOK POSSESSION OF A CHURCH.

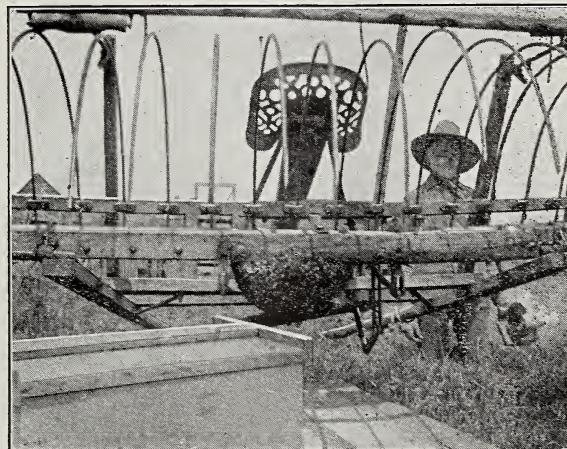
job was evidently a bigger one than was anticipated, for it appears the roof had to be torn apart several feet each way; and two tubs of honey—that would indicate that the bees had had possession of the church for at least two years—possibly longer.

It is well known that a powerful colony that has all the room it requires will keep on storing honey in garrets or other places without the probability of swarming. It is apparent in the case before us that these bees had no desire to swarm out. No patent hive nor any fancy notions of man put any limit on their inclosure. Indeed, they were free to occupy, if they chose, thousands of feet of rafter space.

Why were they disturbed in their peaceful possession? Well, I can only guess at two reasons. One is that the attachments of the combs right next to the roof would, on a warm day, melt away, letting the honey crush on the lath and plaster. The result would be that the mellifluous sweetness would ooze out here and there, soiling the frescoing within, and every now and then stray bees would be hovering over the heads of the audience. Something would have to be done, and the services of some bee-man would have to be engaged. Perhaps he might have trapped them out with bee-escapes; but how about the honey, the thing that was causing the real trouble?

But I will now answer the question that has been put to me so many times, "How can we get the bees out from between the two walls of buildings, or in this case, we will say, from between the outer and inner lining of the roof, without mutilating the building? Two or three plans have been suggested. The most feasible one, in my opinion, is the use of Porter bee-escapes at the entrance or entrances leading to the space within the building. The bees will pass out readily but will be barred from going back, and in the course of a day or two there will be quite a swarm outside. Within a week or so there will be only a few bees to take care of the brood, and the queen will ease up on laying and some of the brood will die. As the bees hatch out and become of flying age they too will join the bees outside. But how are we going to take care of the bees as they come forth and are debarred from going back? A frame of unsealed brood placed in a hive close to the old entrance would hold the first bunch of bees that were trapped out. As the young bees fly out they will be drawn by the other cluster, and go into the hive outside and join the old original crowd. In the mean time the queen within the old inclosure is having fewer and fewer bees until they are all gone, and she herself has no more nurses to take

care of the young brood from the eggs she has laid. The brood all dies and she herself soon follows suit. What happens next? When no more bees come out of the space in the building for a matter of two or three weeks or a month it may be surmised that the queen is dead, as also the brood. Now remove the bee escape or escapes; and if it be in the fall of the year the bees in the outer hive will rob out the honey that was stored inside of the building. They will do a thriving business for several days. As fast as they store it in the hive remove the filled combs and give them others. When



A SWARM OF BEES TAKES POSSESSION OF A HAY-RAKE.

they stop robbing it will be reasonable to suppose there will be nothing in the lining of the buildings but combs and some dead brood that will do no harm. In the fall take the colony entirely away or put it into winter quarters. In the case of the swarm on the church the hive could have been located right on the roof near the corner. It would be an odd place for a hive, especially if shaded by boards, as it would have to be in such a hot place, but this would be for only a short time and would save the expense of mutilating and repairing the building.

This plan of removing a colony from within the walls of a building has been successfully accomplished in several instances, and could have been carried out in the case before us.

THE SWARM THAT TOOK POSSESSION OF A HAY-RAKE.

The other day there was an account in the papers of how a swarm of bees took possession of a train, compelling the engineer and fireman to vacate the locomotive while they themselves began to cluster in the cab. While I do not believe one-fourth of the stories about bees in the newspapers, yet such an incident is entirely within the range of possibilities.

Sometimes a swarm will be bent on clus-

tering on a human being. It is indeed a fact that they will sometimes seek the most unusual places, although as a rule they prefer a leafy bough with plenty of convenient points of attachment, for comparatively few bees must hold the entire weight of the cluster. Occasionally a swarm will hang under the eaves of a building, and if left undisturbed may draw out a set of combs; or, if there be a convenient hole, crawl up and occupy a space under the roof as in the first picture. At other times they will cluster on agricultural machinery. Mr. J. A. Gillette, of Burchinal, Ia., sends us a photo of this kind, but the old farmer was, apparently, a bee-keeper too, for he has in his hands, as will be seen, a Clark bee-smoker. A further evidence of this fact is a modern hive with its entrance located immediately beneath the cluster. In front of the entrance is what appears to be a board on which, as the bees are dumped, they can conveniently run into the hive. We are not told what happened, but I surmise that the hay-rake at the point directly above the swarm was given a quick hard jar, and the job was done.

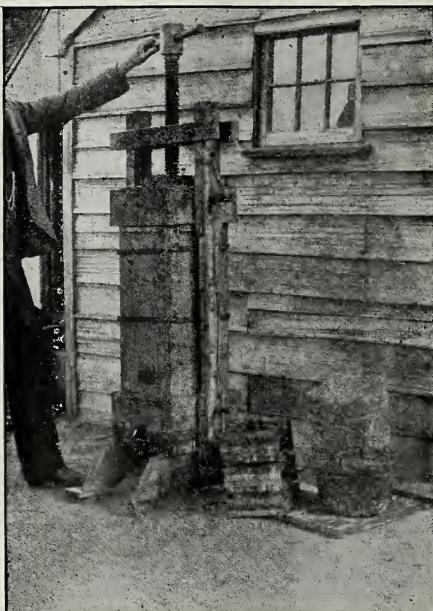
A CAPPINGS AND WAX PRESS

Out of an Old Cheese-press.

BY E. R. ROOT.

Some time ago Mr. T. Bolton, of Dunkeld, Australia, sent us two photos illustrating a device he was using. It is nothing more nor less than an old cheese-press adapted to

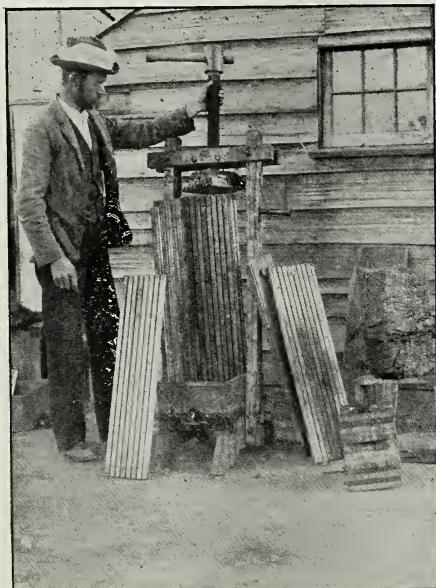
squeeze cappings from extractings dry. One illustration shows the machine dissected, with the perpendicular grooved boards, so that the honey, as it is squeezed out, may run down into the pan beneath, where it can be drawn off. The other illustration shows the machine assembled, ready to squeeze.



CAPPINGS-PRESS CLOSED.

These old cheese-presses can be bought very cheaply in some localities, and, when obtainable, serve excellently both for cappings and hot slumgum. The latter must be melted in a kettle of water conveniently near, and then dumped into a burlap sack. Pressure is quickly applied, causing the wax to flow out from all points.

The illustration herewith shown will explain how an old press can be adapted for either a cappings-squeezers or a regulation wax-press.



CAPPINGS-PRESS OPEN.

HIVE-TOOLS.

Their Use and Abuse.

BY LESLIE BURR.

On page 312, March 15, are cuts of the H. S. Ferry hive-opener and bee-brush. Those things are along the line of many other devices that are continually being advocated by various men who know very little about practical bee-keeping. I may here mention the Hochstein machine for holding frames while uncapping, and the man who ran his extractor with a treadle while he uncapped, also using two knives to uncap with, keep-

ing one in water, or rubbing it over a bacon skin.

There is no better all-round hive-tool (and I have used every thing from a machete to a butcher-knife) than the broad-bladed paint-scraper or putty-knife — a knife with a blade at least three inches across, and strong enough to break loose any cover. It is all right for digging out frames, scraping covers, and handling combs that have been built where they should not have been; in fact, it is the *only* hive-tool; and when you are through working with it, put it in your hip pocket.

As to bee-brushes, one is seldom needed unless handling frames of new honey or a frame with a queen-cell. Take the frame with the thumbs across the ends of the top-bar, and the knuckles of the fingers on the end pieces; then give the frame two or three sharp shakes (shake with your arms, not your back). If you have to use a brush, there is nothing better than the well-known Coggshall brush. With it you can *sweep* the bees off the combs — not just chase them around and spoil their good temper as this Ferry double-acting back-acting machine will do.

In uncapping, all that is necessary is a strip running across the uncapping-tank in front of you, about four inches wide. Have it hang in so that it can be easily taken out at odd moments when you wish to work up the uncappings. As to having to put a knife into water to uncap, there may be times and places when it is *necessary* to do so, but I have never seen it. I have seen people who claimed it had to be done, but I found no trouble in uncapping the same combs. One such occasion was in the Province of Santiago. I uncapped the same combs as fast as an eight-frame Cowan extractor could handle them, and put the full frames into the machine as the operator took out the empty ones, and he was as good a man as I ever had run an extractor for me. The fastest uncapping is not done with a sawing motion. Strike a downward blow with the knife at an angle, taking off a strip of cappings not over two inches wide; then when the blade strikes the board over the uncapping-tank (if done correctly that edge of the knife which comes in contact with the board is never needed to cut with) push the knife point foremost across the end of the frame, and an upward sweep holding the knife at an angle to get a draw cut, and the side is uncapped.

Guines, Cuba.

[Conditions and methods of management are so different that what will answer for one would hardly do for others. The putty-knife would be ill suited for prying apart Hoffman frames, for the reason that the blade is too wide. It is all right for prying off hive-covers — nothing better.

In a dry climate, where honey is very thick, hot water greatly assists the honey-knife. Yet in a climate like yours it is not needed.—ED.]

SPACING FRAMES BY MEANS OF MARKS ON THE HIVES.

Making one's own Hives.

BY J. A. CRANE.

I have read with much interest the discussion in regard to the Hoffman frame, and it seems to me to narrow down to about this: For bee-keepers who move their bees, or who make colonies for sale, it is the best thing out; but for the man who keeps his bees at home, or is near outyards, why be bothered with any thing so cumbrous as a frame built of propolis half way down the end-bars, and that you can't get apart without breaking one out of three every time you open a hive in cool weather?

I recollect the editor saying one or two years ago, that he never found more than one apiary having loose frames that were properly spaced. Now, we all know that, without some guide, it is a hard job to space a set of frames just right; but we also know that it is no more work to space a set of frames right, if we have a mark to set them by, than it is to pack a set of Hoffmans covered with hard gum.

The simplest way of using or spacing Simplicity frames that I have ever heard of is my own invention, unless it is so old as to have been discovered before my time. It is like this: Take a common carpenter's marking-gauge, and set it so as to scratch the center of the top-bar. Scratch an inch or more from each end, then mark the scratch with a lead-pencil *hard*, so that it will show deep and black, then mark the top edge of both ends of the hive *crosswise* also with, first, a scratch-awl, then with the lead-pencil, so that the marks on top of the frames will match those on the hive; then it is easy to space correctly without the use of wood, staples, or nails to be in the way or catching in the next comb.

For marking the hive-ends, take a strip of wood the length of the end of the hive, two inches wide, and saw in one inch where each frame-center is to be; then with a jack-knife cut a notch on one side of each slit and lay this on the hive-end and mark by the square edges. It is but a short job to mark a lot of hives, and, when done, it lasts. If the bees pack propolis into the marks it does no harm, for they can be seen better than ever; and if any one has hives and frames once marked it soon becomes a fixed habit to set the frames in so the marks jibe, and there are no more bulged or thinned combs.

There is a saying, "Don't monkey with a buzz-saw." The advice is good for some; for others, not. Hutchinson's advice to get a saw and make your own hives, etc., applies equally. Now, any one who knows nothing about machinery and tools had better leave the buzz-saw alone and buy his supplies ready made. But, on the other hand, any bee-keeper, farmer, or laborer, not a mechanic by trade, who is capable of

using a buzz-saw, is certainly capable of making one himself, as good as or better than he could buy, and for about one-third cash outlay.

Marion, N. Y., Feb. 25.

[Your plan of marking the distances off in the hive will work; but in the case of the old-style Langstroth frame, absolute accuracy in spacing is not necessary. One can ordinarily do a fairly good job with his fingers after he has had a little experience. Years ago, when I used to handle these frames, the space between the ends of my fingers as I moved each frame into place would make the distance approximately right.—ED.]

LOOKING FOR QUEEN-CELLS WITHOUT OPENING THE HIVE.

A Simple Clamp for Securely Holding the Supers in Place so that the Hive may be Tipped Back and the Condition of the Brood-nest Seen at a Glance; a Boon for Comb-honey Producers.

BY F. H. CYRENIUS.

Advanced methods of comb-honey production require an examination for queen-cells once in seven or eight days during the honey-flow or swarming season, or the practice of natural swarming. To remove the supers and take out the combs of a hive crowded with bees (as they always are at this time) is a tedious job compared with simply tipping the hive back, if the supers were secured so they would not slide off, saying nothing of killing more or less bees or perhaps a choice queen.

It is an indisputable fact that bees will store more honey over a hive full of brood so long as they do not attempt to swarm than by any other plan or condition. This being the case, why disturb or change them so long as they do not make preparations to swarm?

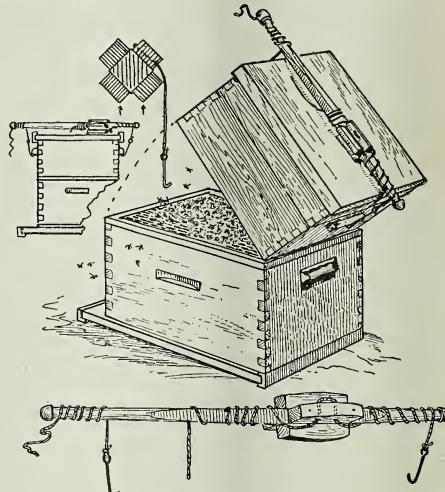
With this simple device 100 or more colonies may be examined per hour; and if this examination be made every seven or eight days there need be no fear from swarming.

The proper time to do the shook-swarming act is after queen-cells are started; and I believe no plan is superior to that described in April 1st GLEANINGS by Mr. Sibbald.

As ventilation very much retards swarming, I should recommend the Pettit tapered pieces under the hives at the approach of hot weather.

The clamp above referred to is made of straight-grain hard wood, $1\frac{1}{4}$ inches square, tapered at one end, and four pieces or blocks nailed on all four sides, which gives the proper fulcrum with eight bearings so it can be adjusted to take up all the slack cord. On the tapered end is attached a cord with hook to grapple in the back hand-hole of the hive after which the lever is turned to take up all the slack cord.

Now place the other (or detached) hook in front hand-hole. Now bear down on lever until the proper pressure to hold the supers securely is attained, and wind the cord around the lever a sufficient number of times to hold it securely as the hive is tipped up. Be sure the cords are wound in opposite directions around the lever so that it will not turn as it would if both cords pulled



on the same side. Now grasp the lever around where the cord was just wound, which will prevent it from slipping, and also furnish a very convenient handle for tipping the hive, as shown in the photo.

If the hive-cover is strong enough to withstand the strain it will not be necessary to remove it. If the cover is not strong enough it must be removed and a piece of board laid across the super to receive the strain. With a little practice any one will soon become efficient in its use.

Blow a little smoke in the entrance before adjusting, then a little more, and tip the hive back and smoke the bees up out of the way.

Oswego, N. Y.

[For the benefit of beginners it may be well to state that Mr. Cyrenius omits saying that the success of his plan depends on the fact that the swarming-cells will be built along the bottom-bars of the brood-nest tipped up as shown in the illustration. In some cases there might be no swarming-cells at the bottom of the frames where there will be several of them located in the middle portions of them. But, generally speaking, the swarming-cells will be along the bottom-bars, and the plan would give the desired information in most cases. But even then the plan contemplates (see illustration) the use of a double brood-chamber, as I understand it — that is, a two-story hive with a super on top. Mr. Cyrenius apparently assumes this kind of combination, taking it for granted that the veterans will understand him, as no doubt they will. But in

the production of comb honey the great majority of bee-keepers work with *only one* brood-nest. I suppose there is nothing to interfere with lifting the one brood-nest with its supers off from the bottom-board; but in such cases I should expect, owing to the chilling drafts from the entrance, the cells would often be higher up.—ED.]



SWARMS WITH VIRGIN QUEEN WHEN SHE GOES OUT TO MATE.

"Good morning, Mr. Doolittle. I have come all the way from California to have a little talk with you in regard to something which I think will be interesting to us both."

"Very good, Mr. Muth-Rasmussen. I am glad to see you, for I know you are one of our oldest bee-keepers, and one who has had much experience with the honey-bee. What is to be this interesting talk?"

"First I wish to speak of something which very often happens with us in California; and to make it plain I will put it under the head of a supposition."

"That is right. By making matters plain we shall understand each other better, and know whereof we speak."

"Now, suppose the following case: A colony of bees loses its laying queen by her dying from old age or some other cause. The bees start queen-cells on her brood; but when the young queens emerge there is no more unsealed brood from which a queen can be reared; consequently, when the virgin queen flies out to mate, the bees will swarm out with her and will settle on a tree or bush, like a normal swarm. One of the questions I should like to ask is this: Does the young queen after a successful mating, return to the old hive, or to the swarm hanging on the tree?"

"But is the case a supposable one?"

"I had thought so. Why not?"

"Perhaps it will be well for us to look into the matter of how swarming is conducted. Would a swarm issuing under your supposed case be any different from any after-swarm, except that more bees would go out with this virgin queen?"

"Perhaps not, only that there would be more time for the brood to mature than there would be where the old queen goes with the prime swarm instead of her being lost by death."

"Yes, you are quite right there; for with the loss of the old queen it would be from ten to thirteen days before the first young queen would emerge, while, when the queen goes with the prime swarm, the young queen generally emerges seven days afterward.

But as all young queens are from four to eight days old before they go out to seek the drone, all brood must be sealed under any and all cases where man does not interfere, before any virgin queen would leave the hive on her mating-tour."

"I guess that is so."

"Certainly. All authorities agree on this. All swarms having virgin queens must necessarily issue *only* after *all* brood is sealed, unless, perchance, the prime swarm has been kept back by foul weather till near the time of the emerging of the young queen, and, so far as my knowledge extends, no virgin queen, while her colony was in a state of nature, *ever* flew from her home to meet the drone until after *all* brood was sealed."

"I think we agree on these points; and, if so, why was not my supposable case good?"

"Because swarms do not go with virgin queens when they go out to mate. Let us study into the swarming matter a little further and see if we still further agree. You say in your supposition that, after the death of the queen, the bees start queen-cells. Now, I never (certainly) knew of any after-swarm issuing, or of a *virgin* queen going with a swarm; or any swarm going with a virgin queen, without a rival queen being left in the hive from which such swarm came—the same generally being confined in one of those *queen-cells* you tell me was started. This is nature's plan for the preservation of the old home or hive, and is one which has prevailed for thousands of years. I said, 'certainly' knew, because, years ago, I supposed I had cases where the bees went out with the queen when she went on her wedding-flight; but later experience has convinced me that there was a rival queen in the hive from which these swarms came. If this is correct, then your case is not a supposable one."

"The only answer I can give is this: Under the supposable case, and under such circumstances, the bees (though not the whole colony) invariably swarm out with the virgin queen, in this locality. I have had quite a number of such cases this year."

"Well, this beats me, and it is the first time I ever heard of such a thing. I know that *locality* plays a very important part in bee-keeping, but I did not suppose that it could change the laws governing the swarming of bees; and as you and I are among the oldest of the bee-keepers now living, if you are agreed we will ask the readers of GLEANINGS to tell us how they find this matter in their locality."

"I am agreed, and should like to hear from them."

"And that they may know how Doolittle views this matter I should like to state that, so far as my experience goes, a swarm goes out with a virgin queen only when there are rival queens left in the hive in the shape of other virgin queens in queen-cells, and when all but the last virgin have gone out with swarms, or been disposed of by the bees or by the queen that is at liberty in the hive; then, a few days later, this remaining queen

goes out to meet the drone alone, *with none of her bees accompanying her*, is fertilized, and soon becomes mother of the colony."

"And Muth-Rasmussen wishes to say that, under the circumstances he has given, a part of the bees invariably swarm out with the virgin queen when she goes out to mate, leaving nothing from which the bees might rear another in case this virgin fails to return. And I hope to hear from many on this point, especially from those in California. Now, as we have left it to the readers of GLEANINGS to tell us their experience in this matter, suppose you tell me whether you think the queen, on her return from a successful mating, would go to the old hive or to the swarm hanging on the limb."

"In cases of this kind I should expect that the virgin queen would alight with the swarm, and stay with the swarm until the same was hived, or found a home in some hollow tree or cave, when, or after which, the queen would go out to meet the drone, from the fact that I never knew a virgin to mate until her colony was established in a home of some kind. I have opened hundreds of after-swarms within one to three days after they were hived, to see about how they were building comb, and I never saw eggs in any cells earlier than two and a half to three days from hiving, while it was more often four to six days."

"Thank you for your opinion on this point. And now will you give your opinion still further? If the young queen, after having met the drone, returns to the place where the swarm had settled, but the swarm, in the meantime, while the queen was in the air, has been brought back to the old hive, will the young queen come back to the old hive, or will she remain at the settling-place, lost like a young bee that does not know its own home?"

"Should such a thing happen as you are supposing, the queen would return first to where the swarm had settled, and, not finding it, she would return to the old hive, as she marked the location of her old home when she went from it, the same as all the bees with the swarm do. All bee-keepers who practice clipping queens know that, if any thing happens to their queen after they have clustered, they will go back to the hive from which they came."

"Thank you again. And now just one more question. If the young queen, after mating, returns to the swarm hanging on the tree, and the swarm is not hived by the owner, will the swarm return to the old hive of its own account, or will it finally leave in search of a new home?"

"It would leave in search of a new home; for, so far as my experience goes, all swarms having their queen in perfect order with them, look up a new home, and never return to their old home. They start out from their parental roof with the intention of establishing a new home, and they always do this unless thwarted in their purpose by the loss of their queen."

"These are interesting questions, and I do not remember seeing any thing exactly to the point, either in bee books or papers."

"Pardon me for thinking that the reason you have not so seen is because others have not found out that bees swarm with the last and only young queen they have, when she goes out to meet the drone, thus purposely leaving the old home hopelessly queenless. This is not in accord with nature's ways."



WHAT BECAME OF THE QUEEN'S WINGS?

At dinner Mrs. Janes informed me a swarm of bees lit in the maple-tree. She had found and caged the queen (clipped), at the time the swarm went out. When she showed me the hive they had gone from I remarked at once that my record showed no *clipped queen* in that hive, and at once prompted me to examine the queen closely. I saw she hadn't a sign of any wings whatever — only frayed stubs at the shoulders where should have been wings. That explained why she was not flying, though unclipped by me. So we fixed hives as wanted, fully expecting in due time the swarm to come back. In a few minutes we saw them begin to break up; but instead of coming back, as I was expecting them to do, they arose and flew away and did not come back at all. A dozen queen-cells were left in the hive, about as old as usual, after the swarm left, so it is evident there was another queen besides the one we found without wings, and she evidently had at one time had wings, or could not have gone out to mate and perpetuate a colony. The only way I see is that the bees had raised another queen and let both remain in the hive, which is rather hard to explain and allow time enough for the last queen to get ready to swarm. What became of this queen's wings, any way? My first thought before examining cells was that, as she couldn't fly, they had waited till a virgin queen hatched and went with them; but the cells left contradict this, as they were not capped over.

Paducah, Ky.

W. M. JANES.

[Friend J., the old queen you caged had good wings once. I can not tell just how she has lost them, but queens often have their wings torn off this way after being balled by angry bees. I had one very valuable queen for several years that looked more like a big black ant than she did a queen. When she got old she was allowed to stay in the hive with her royal daughter. This is not very unusual. The young queen

led out the swarm, and this aged wingless queen started to go along with the "young folks," when you caught and caged her. When bees hang in a cluster in that way there is pretty sure to be a queen of some sort among them. The best way is to hive them just as if you had not found one queen already and caged her. The brood in the hive might have been the work of the laying queen that led off the swarm; or both queens may have contributed to the brood. If you give the wingless queen some bees you can soon tell whether she is of any value.—A. I. R.]

SHOULD COMB HONEY BE LEFT ON THE HIVES TILL THE END OF THE SEASON?

Reading Mr. Dan White's article in regard to letting the honey stay in the hive until it is well ripe, would you leave all the supers for section honey over the colonies until the season is practically over, or does it make less difference with section honey than with extracted? that is, should the full supers still be left on the hives when empty ones are put under? Will the quality be better by letting them stay on?

Fredericktown, Mo. JAS. BACHLER.

[Mr. Dan White was speaking particularly of *extracted* honey. In the production of *comb* honey one would have to take it off as soon as it was sealed, to avoid travel-stain; while if on the hive a long time it will improve in flavor, yet it will deteriorate in outward appearance. It is this factor, very largely, that decides the sale of all comb honey. Of two sections, clover or basswood, one that has been on the hive a long time, and one just long enough to be sealed, the latter will outsell the other because of its cleanliness and freshness. The long-time-on-the-hive section might look like last year's honey or old goods.—ED.]

COMMENTS ON THE ALEXANDER ARTICLE ON INCREASE.

I commenced to read GLEANINGS in 1888, and have read a good many articles on bees in that time; and if a better or more practical article than "How Shall we Make Our Increase?" by E. W. Alexander, was ever printed in it, I have failed to see it or comprehend any thing its equal. The loss of brood, a practical bee-keeper would see at once, would be a big item making toward the betterment of the colony to be. I can readily see that one must have strong colonies for this manipulation. The Sibbald plan is somewhat after Dr. Miller's plan of managing swarming colonies. He printed it several years ago in GLEANINGS — in fact, it is in his "Year Among the Bees."

He calls it his "put-ups," as the old colony is placed above the swarm; and then later the old colony is put back with the swarm. Instead of leaving a queen-cell with the bees in the new hive he gave them a frame of choice brood to raise queen-cells. It's a good plan too. I have tried it many times.

By the way, in manipulating swarming colonies or those you have shaken, the best place for the colony is on top of the new hive. I mean on top of the cover of the new hive. Have them as two separate colonies, with their two entrances. Flying bees are not so apt to find the old hive if it's on top as they would if it is at the side.

But there is the loss of brood in this case. I have been thinking that, perhaps, it would be profitable, when we take the old hive from the top of the new one, by Alexander's plan, containing the queen, if the bees could be shaken from combs of brood into a new hive containing a queen, as brood is now all capped in the queenless part; consequently there could be no loss in brood, thus giving us a big force to go into the sections. May be by doing this it would induce them to swarm later.

GEO. SHIBER.

Randolph, N. Y.

CAPPED-OVER CELLS CONTAINING NO HONEY;
WHAT DOES IT MEAN?

In extracting honey the other day I found in a few hives which were well filled with honey many cells sealed up with no honey in them at all; in some, very little. I wondered what the reason was.

FRED WULF.

Columbia, Cal.

[Friend W., I have noticed the above a few times, but it is not a very frequent occurrence. The only explanation I can give is that some of the bees made a blunder. This seems unreasonable, especially as every operation in the hive during the working season is carried on with such precision and economy of labor; and if anybody else can give a better explanation I should be glad to hear it. Perhaps some of the younger bees that hadn't learned how made the blunder; or it may be some of the veterans, so old as to be childish, were so stupid as to go to work and seal up the cells in the regular way without noticing they had not been filled. I do not like this explanation, because I have often watched the process of depositing the honey in an observatory hive; and it seemed as if they kept adding honey from time to time as the cap was contracted, and the opening made smaller and smaller. When the last touch, or last bit of wax, was put on to seal the cell over tight, the glittering ripened nectar seemed to come clear up and touch the cap at every point. This very peculiarity that we are now considering is one of the things that is going to make it impossible for man's inventive genius to cap comb honey by artificial means.—A. I. R.]

UNCAPPING-CAN A GOOD ONE.

I should like to have bee-keepers who do not care to purchase a regular uncapping-can know how complete the tub used for that purpose is, spoken of on page 759 last year by J. W. Woodhouse. I have made one, and am using it this season. It is a good thing.

S. B. HUSSEY.

Rancocas, N. J.



Ho, every one that thirsteth, come ye to the waters, and he that hath no money; come * * * —ISAIAH 55:1.

You will notice, friends, I have placed the same text above my talk to-day that I used in the last issue, and I want to go back with you to the Oberlin water-works plant. When I first reached the grounds my eye caught a glimpse of a large plant in full bloom that I had never seen before; but other things took my attention so that I partly forgot about it until just before leaving; then I said:

“Friend Gerrish, what was that beautiful plant of which I caught a glimpse just as we came on to the ground?”

“Oh, yes! to be sure. You must come and see my flowers.”

Sure enough, it was something I had never seen, and I was a little surprised, too, to find that, in all my visits to greenhouses, experiment stations, public parks, etc., this new revelation of beauty had never met my eye before. The plant was three or four feet high, and radiant with great blossoms almost the size of a dinner-plate. I raised my hands, and uttered an exclamation of surprise. Yes, it was one of my “happy surprises,” and a big one too. First, there was the outside row of rose-colored petals. Just inside of this was a zone of cream-colored petals, and inside of that another zone or row of a different color still, flecked with crimson spots. Inside of this, and filling the center, was a great mass of corolla and stamens; and the Italian bees from the apiary before mentioned were tumbling over each other to get their noses (or perhaps we should say antennæ) into the center of that great blossom. There were, perhaps, a dozen blossoms on the plant, and I do believe that it was the handsomest floral production I ever saw, not excepting any I ever saw in Cuba or Florida. What do you suppose it was? After my two friends had laughed at my enthusiasm, Mr. Gerrish replied that it was a tree peony, bought of Storrs & Harrison, Painesville, Ohio. He said it stood outdoors unprotected, and had borne blossoms several summers. There were three or four other tree peonies, but none of them so gorgeous and startling in their beauty as this one—at least to my eye. Then I remembered that I had heard strange talk about the old-fashioned peonies of our grandmothers having been lately brought forward and developed into new and gorgeous creations at the hands of experts in that line; and then I remembered again that on my table in my office at home there was a pretty good-sized book or pamphlet on the cultivation of the peony. I have been intending to write it up, but was not quite decided as to whether the readers of GLEANINGS would care to know about a book devoted entirely to peonies. By the way, the author of this manual on the peony is a queer sort

of brother. Let me make some extracts from two letters I received from him:

My dear Bro. Root:—I have been in the ministry 47 years. My nerves were worn threadbare. The wolf was at the door, so I started a nursery. God has blessed me in it. I have your book on tomato culture; glad you put Christ in it. I am issuing two books—see circulars I send you. One book is on the peony. The other will be out in a few days. I now write for papers having an issue of over 300,000, preaching the gospel of beauty.

York, Neb. Jan. 23.

C. S. HARRISON.

Here is another letter that came later:

Bro. Root:—At 66 my health failed; then with God's help I pulled out of my head and hands one of the finest nurseries in the West. The old man would not go on the brush-pile after all. I developed 20 new phloxes of rare merit last summer. It is delightful to work with God among flowers. I sowed 35 pounds of choicest peony seed last fall. I should like to live to see them bloom. Oh! this is God's wonderland. I want to make the hither shore prophetic of the glory beyond, and dress up Beulah land before I leave it.

York, Neb. Feb. 6.

C. S. HARRISON.

Now, this book about the peony contains 64 pages. It is fully illustrated, and mentions several hundred varieties, and quotes from 25 different growers and originators.* The book will interest you because it is a good deal like the letters I have quoted. I am sorry, however, it does not have very much to say about the tree peonies, because they do not do extra well in Nebraska. A few days later I found a postal card on my desk which reads as follows:

Dear Sir:—Are you interested in peonies? We have a fine stock; will be in fine bloom about Sunday or Monday next.

C. BETSCHER.

Canal Dover, Ohio, May 31.

“Interested in peonies?” Well, I should say so. I had to laugh to think of its coming just when I was getting the fever. Then I discovered on page 40 of the book I have mentioned a list of peonies grown by friend Betscher. I found by the map that he lives about 60 miles from here; but the State Sunday-school convention that was just coming off was near by, and the two places are connected by an electric line, so I took in both on the same trip. Now, friend Betscher is a very modest man. I supposed he had a few dozen plants around his greenhouse or in his dooryard. Well, that was true. I found enough beauty to pay me for my trip before I discovered that he himself was half a mile away out in the peony-field; and I actually found him and his helpers amid three or four acres of peonies in full bloom. The sight of the 75,000 plants was wonderful. It was a revelation. It can not be described on paper. Imagine a handsome thrifty potato-field with half a dozen flowers on every plant, and blossoms as large as saucers. There were not many of them as large as the ones I saw at Oberlin. There were in that field something like 1000 different varieties; and I believe friend B. has tested as many as 1000 different ones in order to get at the best. I asked him if it was not a good deal like the lettuces of America, in that a good many were so much like others that none but an expert could tell one from another. He said that was true; and if I recollect correctly he said they might be cut

* Friend Harrison will mail the book for 30 cents.

down to 25 or 50 varieties with no great loss. Some of the plants are quite valuable, as a matter of course.

Now, you need not all be in a hurry to go into the peony speculation. It takes a year for the seeds to come up, and few bloom fully in less than three to eight years; but you can buy roots at almost any season of the year for a few cents that will give you more or less bloom the second year.

In the *Mayflower* for last November Mr. Betscher wrote up peonies very thoroughly. The article occupies six pages. The tree peonies are earlier, as a rule, than the common kind, and the few he had were out of bloom. Mr. Betscher's outyard was in full bloom at the time of my visit, and it was some days after my trip to Oberlin. As soon as I reached home from Oberlin I sent an order to Storrs & Garrison. They did not fill this order, but their reply was characteristic of that old and reliable institution. They wrote me that the tree peony had given satisfaction only in special favored localities, and that they would not advise me to invest in it unless I was willing to take my chances. Mr. Betscher said substantially the same thing; but after I saw how they had succeeded in Oberlin I invested in three plants, all different. They cost toward a dollar each, and are very small at that, so you see they are now somewhat expensive.

There are many very desirable things about the peony. The early varieties commence blooming in May, and some are now being developed that I think do not come into bloom till July; but they keep in storage until August, giving fully three months of bloom. For cut flowers to take to church, for a wedding, or other entertainments, I do not know of any thing more handsome. Friend Betscher loaded me down with a bouquet about as large as I could well carry. I took it to the Sunday-school convention, then astonished the neighbors with it around home; then the third day after the flowers were cut I took them to church, astonishing every one there; then I delighted the Sunday-school, then the Endeavor Society; and the young people there took them away to carry to the bedside of some sick people in and around Medina; and I do not know how long they held out after that. They were gathered, I think, on Thursday, and on Sunday evening they were still bright and handsome. In order to have them hold out in this way the flowers are plucked just as they are opening. They can be shipped by express long distances, and still hold their beauty. But I must not forget to tell you that on Saturday afternoon I carried them around through the factory, and enjoyed surprising the women-folks especially. It was toward night, and they were most of them weary after the week's work, and not looking particularly animated or bright; but when I pushed my vase of flowers near where they could get sight of them you ought to have seen the transformation in their faces. Up went their hands, and wide open their eyes. It seemed as if the

women-folks "caught on" to the good looks of my beautiful flowers, as was evinced by the joy, surprise, and animation on their faces. Where there was a roomful of girls they left their seats and gathered around the beautiful blossoms, and it made me think of the Italian bees on that tree peony at the Oberlin waterworks. My friend, did you ever see a woman who does not look bright and happy when you surprise her with some beautiful flowers? If so, she must be an exception to the general rule. If you wish to make your daughter or wife (or sweetheart) look happy, show her some beautiful flowers when she is not thinking of it or expecting it.

Now, right here I wish to say that I am not much in favor of *cut flowers*; but if you grow them in your own garden or greenhouse it is well enough; but I do not believe in paying out a lot of money for flowers, that fade so soon. Buy a whole plant when you wish to invest, and then you will have perpetual beauty year after year; and a whole plant, a good many times, does not cost much more than the cut flowers.

Now, if you have not got a peony in your dooryard, set right about it and get one. Give them plenty of good rich compost. If you wish to see them do their best, dig down two feet and work into the soil a lot of old well-rotted manure. Perhaps old cow manure is the best. When your peony once gets started it will take care of itself for a hundred years for aught I know; but, of course, they will make many more and much larger blossoms if you dig about them and manure the ground once in a while. The plant has almost no insect enemies.

There is another thing I forgot to mention. The old-fashioned peonies do not have any perfume. On the contrary, so far as I recollect, the odor of the blossom is any thing but pleasant. The new creations, however, many of them, have as fine a perfume as our choicest roses; and the variations, colors, and markings are as well marked as any thing you can imagine.

Are some of you inquiring what all this has to do with the text I started out with? Well, friends, it struck me in this way. I looked at that tree at the Oberlin waterworks just after I had had a good drink of that beautiful water; and it occurred to me all at once that, like the water, the happiness and refreshment we get from flowers is free to all. "Come ye to the waters and drink." You can stand before these floral treasures that God has given us, and drink in to your full, and there is just as much left after you are satisfied, for somebody else, as there was before. The bouquet of peonies that I carried home delighted and made happy hundreds of people, and it might just as well have been thousands. If you put a pretty flower in front of your dwelling or near where passersby can see it, you are a public benefactor. Men and women are made better by the sight of flowers. A baby will stop crying if you hold before it a beautiful plant in full bloom. A bad boy

or girl, or perhaps I should say a boy or girl in a bad frame of mind, is often made better by the sight of a flower. They help to drive out Satan. The one who helps to make this world bud and blossom is a public benefactor. Friend Harrison, who wrote the peony book, has got it right where he uses the expression, "Preaching the evangel of beauty." I am glad to say that some of the prettiest of the flowers are not very expensive either. Your home florist will probably furnish you nice roots for 25 cents each; and I think you can get a whole dozen for \$1.50 or \$2.00.

A friend just informs me that he saw in a dooryard in Chicago about forty different specimens of peonies, and that among them was one I think from Japan that was just a little miniature flower, the size of a small rose, perhaps, but a perfect peony in foliage and bloom.

In closing, let me say a word about having plants outdoors in the yard instead of in the house or in the greenhouse during the summer months. Most flowering plants will take care of themselves the greater part of the time during July, August, September, and sometimes through October. If you have a long and severe drought, you may be obliged to water them; but it does not require any thing like the care that it does to keep plants in the house or greenhouse. We have every thing out doors now except cyclamens, gloxinias, pelargoniums, impatiens sultana, and achimes. They do rather better, and they are less trouble slipped out of the pots and put right into the soil; but after the roots have started and gone quite a distance it is more difficult to get them back into the pots again when you want to bring them into the house when frost comes. On this account many will prefer to leave them in the pots. To do this you should have a nice bed of rich soft mellow soil. I would make it rich, because the roots of the plants will come through the holes in the bottom of the pots more or less. Let them do this if they will; then plunge the plants in the mellow soil clear up to the rim of the pot; and if you wish to make a real nice job of it, cover the whole surface of the ground between the plants with some kind of moss. You and the children can get plenty of moss in the woods, or you can use the sphagnum used by florists. Let this moss be at least an inch thick. Two inches would be better. Now, when you have a good soaking rain this moss will keep the plants damp and moist until the next rain. It also helps to keep down weeds. This is what is called "mulching." The same plan can be used inside of greenhouses; and it will save an immense sight of labor in watering.

The plants that are making me particularly happy just now are those mentioned in the greenhouse, and outside I am having lots of enjoyment with California poppies, Shasta daisies, flowering maples, evening primroses, campanulas (or bellflower), schizanthus, achimeneas, not to mention roses, geraniums, etc.

Temperance.

NEW KINDS OF WHISKY.

The success of the Duffy people has induced other whisky-makers to try the same tactics. Here is an illustration. A whisky-shop sends out a circular containing the following:

The preacher, the Prohibitionist, the most exacting, can drink Prepared Cereal "Product" with perfect freedom of conscience, and enjoys its exhilarating effects.

We have no competition—we stand alone in the field. We are the discoverers—the originators of Prepared Cereal "Product."

Members of the Senate are discussing it.

The President has received a case for the purpose of a thorough analysis, and is astounded at our marvelous "Product."

My good old father used to say if you would give the Devil rope enough he would hang himself; and with a little assistance from the churches and from the Anti-saloon League it looks quite likely. The idea that the preacher and Prohibitionist may get drunk on their stuff with a clear "conscience"! In regard to the members of the Senate, I am really afraid there are at least some Senators who are "discussing" the different kinds of whisky. May God help us in our endeavors to get rid of such Senators. Last, but not least, is the amusing statement that our beloved President is "astounded" in regard to their "marvelous" whisky. I wonder what he will say to such a statement. Like all the rest, they declare that their goods will be put up in such a way that nobody will ever guess what is inside of the package. Please note how this whole business, from beginning to end, seeks darkness rather than light. Who would want any thing to do with a business that has to be conducted with such *pains-taking* secrecy? "Men love darkness rather than light, because their deeds are evil."

FAKE MEDICAL ADVERTISEMENTS, ETC.

As I see you are sharp on exposing fake advertisements, I send you a cutting from a Jamaica weekly which circulates largely among the peasantry here, and which may produce much mischief. Many of them are too much addicted to the occult arts without getting any encouragement from mysterious free books. I shall be glad to see you deal with this in GLEANINGS.

Cedar Valley, Jamaica, June 10. JOHN PROVAN.

With the above was inclosed a column advertisement of a mysterious book on hypnotism, magic, etc. No doubt there is something "mysterious" about the book. In fact, the advertisement itself is *very* mysterious, for the learned professor pays for more than a column advertisement, and ends up by saying the wonderful book will be sent absolutely *free*. What a good man this professor must be! But he probably has learned by experience that he is going to get some money by some hook or crook of most of those who send for his free book.

A few days ago a friend in some foreign country, who reads GLEANINGS, asked me to inquire and find out if one of these hypnotism doctors was honest and square. He was just about sending the doctor \$35 or \$40

for a course of lessons in some newly discovered occult art. We can readily imagine that ignorant people in Jamaica might send money; but it is a mystery to me how there can be people here in the United States who would be caught by such senseless falsehoods.

Here is another in the same line:

Mr. A. I. Root—My attention has more than once been called to the inclosed advertisement by the sick and dying. I was so urged recently to write for the book that I did so. His promise of *no money* is alluring to the poor and suffering. Please note the reply. It seems to me any thing but a *free* matter after you write to them. I have never taken up any thing of this kind. I may not understand them, but it seems to me an outrageous thing. You have done much good through your valuable periodical by exposing such, and I thought you might see this in the light of a fraud, and do something to warn the credulous.

Your exposure of a party recently has brought out gratifying expressions. *MISS L. E. SPALDING.*

Brooklyn, Conn., June 16.

With the above came a double-column advertisement. Let me quote some of the concluding words:

"Do you mean that any one can accept this offer?"

"I mean it for any one who is ill, from any cause, and who feels that the doctors do not understand the case, or who does not want to pay doctors' and druggists' bills."

"But how about those at a distance—can you cure them too?"

"Just as easily and just as surely as though they came to my office. Whether they live one or a thousand miles away, it's all the same. A letter to me does just as much good as a personal visit." [No doubt.—Ed.]

"And they do not have to inclose any money?"

"Not a single cent. Simply write to me and ask to be cured."

"But it seems strange—"

"Strange or not, I mean just what I say, as any one can find out by writing to me."

The lady sent for the wonderful book; but notwithstanding the strong and explicit language the professor wanted \$5.00 before he would commence a month's treatment with his wonderful "vito-opathy." He said the regular price was \$25.00; but as there were so many suffering people who could not scrape up the above sum, he and those associated with him had, out of the kindness of their hearts (?), reduced their price to only \$5.00; and although there was a great mass of literature sent along with it, with affidavits from the bank, and from people who had been cured, there was not a word of explanation or apology for wanting \$5.00 for the secret when the newspaper advertisement said so plainly it was absolutely *free*. He tells the same old story of how the government of the United States had investigated in regard to his wonderful hypnotic power, and was "astounded." By the way, that word makes me think of the United States Senators who were "astounded" in regard to the wonderful goodness (?) of the new whisky. And then some big man at the "Institute of Physicians and Surgeons," at Rochester, N. Y., in an address called attention to the wonderful success of this particular professor's distant treatment. It is a little funny that a medical institute should indorse *distant* treatment when the best doctors the world affords have so much trouble in curing people when they are close by their patients, not only every day in the week, but sometimes several times a day.

Now, ridiculous as this whole business is from beginning to end, these quacks must find people who believe their senseless falsehoods or they certainly would not keep paying for double-column advertisements in our home papers.

A Savings Account

Thousands of people are now doing their banking by mail with perfect safety. The U. S. mail, with its free city and rural delivery, brings the strong, liberal savings bank to the very door of every person no matter where they are. You can open an account with this safe bank by simply sending to us

One Dollar or More,

then add other dollars as you can spare them. Deposits can be sent by Postoffice or Express Money Orders, Check on Local Bank, New York Draft, or Currency by Express or Registered Mail. Your money will earn

4 PER CENT Interest,

compounded semi-annually, and will be secured by assets of over ONE HALF MILLION.

The SAVINGS
DEPOSIT BANK COMPANY,
Medina, Ohio.

A. T. SPITZER, Pres. A. I. ROOT, Vice-pres.
E. B. SPITZER, Cashier.

Don't get Angry

with your razor. It has a temper of its own. It will work well if you use

WILLIAMS' SHAVING SOAP

Sold everywhere. Free trial sample for 2-cent stamp. Write for "The Shavers Guide and How to Dress Correctly."

The J. B. Williams Co., Glastonbury, Conn.

SHOW YOUR COLORS

Don't be ashamed of your calling, society, or club. Wear a badge or emblem that others may read as they run. All designs, all metals. :: :: ::
Beaux Arts Mfg. Co., - 29 Charles St., New York

Wants and Exchange.

Notices will be inserted under this head at 15 cts. per line. Advertisements intended for this department should not exceed five lines, and you must say you want your advertisement in this department or we will not be responsible for errors. You can have the notice as many lines as you like, but all over five lines will be charged according to our regular rates. This department is intended only for point-to-point exchanges. Exchanges for cash or for price lists, or notices offering articles for sale, will be charged our regular rates of 20 cts. per line, and they will be put in other departments. We can not be responsible for dissatisfaction arising from these "swaps."

WANTED.—Brood-combs. Please state price.
H. DECKER, Rome, Ohio.

WANTED.—To exchange 8-frame hives, extractor, and uncapping-can, for honey. Root's goods.
O. H. HYATT, Shenandoah, Iowa.

WANTED.—To exchange a McCombs broom-stitcher, nearly new, for bee-supplies, cash, or any thing I can use.
A. W. SWAN, CENTRALIA, Kansas.

WANTED.—Refuse from the wax-extractor, or slum-gum. State quantity and price.
OREL L. HERSHISER,
301 Huntington Ave., Buffalo, N. Y.

WANTED.—To exchange White Wyandotte eggs or stock, for beeswax, old combs, or solar refuse. Small utility flock for sale cheap. Also 12 S. C. B. Leghorn hens.
H. E. CROWTHER, No. Kingsville, Ohio.

WANTED.—50,000 lbs. beeswax from bee-keepers, to be worked into comb foundation. I need this amount to keep my machinery running. New quarters. Weed process. Fine goods. Satisfaction guaranteed. Foundation for sale, samples on request.
H. F. HAGEN, 1632 Blake St., Denver, Col.

WANTED.—To exchange poultry and bees for any thing in the music line. I am a dealer in pianos, organs, and general musical merchandise, including sheet music.
F. W. WALTER, Staunton, Va.

WANTED.—To exchange one 288-egg and one 120-egg size Van Culin incubator, for honey or cash. Also mismated queens at 20c.
A. H. KANAGY, Milroy, Pa.

WANTED.—Inventors. I will help furnish money to promote good patent. Write what you have and get terms.
O'FLYNG, Clarksdale, Ills.

WANTED.—To exchange 530 T tins 13½ ins. long for \$5.00 (new); 92 P fences, nearly new, \$1.25; 190 pieces of glass 2½x13½, for \$2.00. Will exchange for two-frame nuclei with Italian queen, or for bees on Hoffman frames, or cash. Bees must be free from disease.
HERBERT H. FISHER, Elba, N. Y.

WANTED.—To exchange Remington typewriter for honey. My four-line adv. here sold several gasoline-engines. Write horse-power desired; get prices on new engines. Also little used (serviceably good as new) to exchange for well-ripened light extracted honey. New Superior hanging gasoline-lamps for honey. Agents wanted for lamps.
MOREY, Lagrange, Ill.

Help Wanted.

WANTED.—An active experienced young man as helper in the apiary. Give full particulars and references.
B. WALKER, Clyde, Ill.

WANTED.—At once, unmarried man to work with bees; permanent job; farm work in connection. State age, experience, and wages.
W. P. SMITH, Penn, Lowndes Co., Miss.

Addresses Wanted.

WANTED.—The name and address of those anywhere in the U. S. who expect to buy honey in carload and less than carload lots during 1905.
St. Croix Valley Honey-producers' Association,
Glenwood, Wis.

WANTED.—Parties interested in Cuba to learn the truth about it by subscribing for the Havana Post, the only English paper on the Island. Published at Havana. \$1.00 per month; \$10.00 per year. Daily except Monday.

For Sale.

FOR SALE.—Leather-colored Italian queens, 50 cts. each.
H. A. ROSS, Evansville, Ind.

FOR SALE.—Bee-keepers' Supplies; Root's goods at Root's prices.
A. H. REEVES, Perch River, N. Y.

FOR SALE.—Old honey all sold. Write for prices on new crop.
C. J. BALDRIDGE, Kendalia, N. Y.

FOR SALE.—A few untested queens at 50 cts., tested at 75 cts.
MRS. J. W. BACON, Waterloo, N. Y.

FOR SALE.—White-clover comb and extracted honey; new crop.
R. S. CHAPIN, Marion, Mich.

FOR SALE.—Famous O. I. C. and Duroc Jersey pigs of early spring farrow; also six handsome Scotch Collie puppies.
JNO. M. WHEELER, Winchester, Ky.

FOR SALE.—Full colonies of leather-colored Italian bees at \$5.00 per colony.
F. A. GRAY, Redwood Falls, Minn.

FOR SALE.—Italian bees, three-frame nucleus on Danz. frames with queen, \$5.50; queens, 75 cts.
H. H. JEPSON, Medford, Mass.

FOR SALE.—Buy of a specialist, honey in season. The most extensive bee-business in Michigan.
E. D. TOWNSEND, Remus, Mich.

FOR SALE.—During July, 50 mismated queens at 30c, and 50 old tested queens at 50c.
B. F. AVERILL, Howardville, Va.

FOR SALE.—Selected cases of second-hand 60-lb. cans, f. o. b. Chicago at 40 cts. per case, in 10-case lots.
B. WALKER, Clyde, Ill.

FOR SALE.—Five to twenty-five hives of bees—A 1 Italians, new Danzenbaker hives, well painted—\$5.00 a colony.
M. C. LONG, 421 Cypress, Kansas City, Mo.

FOR SALE.—Italian bees and queens. We make one, two, and three frame nuclei a specialty. Write for circular and price list. Also, 100 T supers for sale cheap.
O. H. HYATT, Shenandoah, Page Co., Iowa.

FOR SALE.—One pair young pigeons free with each \$5.00 order. Full-blooded Homers, extra-mated adult birds, \$1.50 to \$2.00 a pair; young homers, \$1.00 per pair; homier squab breeders, \$1.25 per pair.
GEO. S. ASHTON, Lyons, Iowa.

FOR SALE.—First-class Manitoba bee-farm, 7 miles from railroad town; new frame house, honey-house, good shelter, plenty basswood, wild raspberry, all kinds wild pasture; quick sale or not at all; terms easy.
Box 398, Portage La Prairie, Manitoba, Can.

FOR SALE.—The busy man's method of rearing the best queens; saves brood, time, and patience; rears queens under the swarming impulse. Can you afford to be without it? Price 25 cts. See ad. elsewhere.
E. H. DEWEY, Great Barrington, Mass.

FOR SALE.—On account of departure, 150 two-story eight-frame colonies; most frames wired; Italians and hybrids; sold cheap if taken in the yards; ideal location and fast-growing retail market; one failure in 20 years.
G. P. HOWELL, 6101 Dauphin St., New Orleans, La.

FOR SALE.—About two acres of very rich land, six-room house and three-room basement, large chicken-house, and other buildings, pasture, shade and fruit trees, 30 colonies of bees. Write for particulars.
SARAH ELLIOTT, Alhambra, Ill.